CAGE2WASH three

CAGE2WASH 3

ACID BASED DETERGENT

Cage2Wash 3 is a high performance concentrated liquid phosphoric acid cleaning agent designed specifically for the Animal Research, Life Science, Research & Development and Manufacturing Industries.

Applications

Cage2Wash 3 is optimally formulated for use on all process, caging and laboratory equipment in automated wash and soak applications. It is extremely effective in cleaning a wide assortment of soils including but not limited to inorganic salts, scales, particulate carbon, proteins, urine and most all types of organics. Routine use of this product reduces corrosion, pitting and rusting.

The unique formulation of chelants and surfactants in this premium detergent provide a stabilized formula that is capable of cleaning a multitude of soils on most all surfaces. Cage2Wash 3 is compatible for use on stainless steel, glass, plastics and most elastomer surfaces.

Typical use dilution is .5 - 3%. Precise temperature, concentration and cleaning time will depend on the degree and type of soil present. All surfaces should be rinsed thoroughly to remove all product and soil residue following cleaning.

Features	Benefits
Contains chelating agents	Hard water tolerant
Contains premium surfactants	Great wetting ability for optimal penetration
Highly concentrated	Low cost per use
No foaming	Ideal for optimal automated cleaning
Lot specific documentation package	Product consistency and integrity
Optimal formulation	Eliminates the need for hazardous organic solvents

Available in 1, 5, 30, 55, and 275 gallon containers.

CAGE2WASH three

Specifications

Appearance	Colorless Clear Liquid
Odor	Slight Chemical
Detergency	Excellent
Specific Gravity	1.27
pH @ 1% Solution (normal)	2.0
Solubility	Complete
Foaming	Minimal to none
Rinsing	Excellent
Biodegradable	Yes
Storage Recommendation	32°F – 90°F
P Content	29.7%
N Content	0.00%
Flash Point	Not Applicable
Specific Conductivity	7.9 mS/cm (1% deionized water) @ 21°C

Material Compatibility

Under the recommended use applications Cage2Wash 3 is suitable for use with stainless steel, glass-enamel and most elastomers.

Safety

For cautionary and first aid information, consult the material safety data sheet or product label. Please contact your Veltek sales consultant for further safety and or use recommendations. Contact VAI Customer Service for recycling options offered for 30, 55 and 275 gallon containers.

Standard Ordering Information

Order Number	Description	Container Size	Qty. per case
C-3-275G-01	Cage2Wash 3 Non-Sterile	275 Gallon	1
C-3-55G-01	Cage2Wash 3 Non-Sterile	55 Gallon	1
C-3-30G-01	Cage2Wash 3 Non-Sterile	30 Gallon	1
C-3-5G-01	Cage2Wash 3 Non-Sterile	5 Gallon	1
C-3-1G-01	Cage2Wash 3 Non-Sterile	1 Gallon	4

Lot Specific Documentation Package

All product is lot traceable and delivered each time with the lot specific certification. All lots are traced through the master batch records.

ADDITIONAL SUPPORT DOCUMENTATION PACKAGES *(AVAILABLE UPON REQUEST)*

Sample Lot Specific Certification
Technical Product PDF File
Material Safety Data Sheet
Product Cleaning Validation Report
Product Sterility Validation Report
Analytical COAs
Last-to-Rinse Reports
Specific and Non-Specific Analytical Test Methods for Detection

CAGE2WASH four

CAGE2WASH 4

HYDROXYACETIC ACID DETERGENT

Cage2Wash 4 is a high performance concentrated liquid hydroxyacetic acid cleaning agent designed specifically for the Animal Research, Life Science, Research & Development and Manufacturing industries.

Applications

Cage2Wash 4 is optimally formulated for use on all process, caging and laboratory equipment in automated wash, pressure spray and soak applications. It is extremely effective in cleaning a wide assortment of soils including but not limited to inorganic salts, scales, particulate carbon, proteins, urine scales (on polycarbonate, stainless and other caging materials) and most all types of organics. Routine use of this product reduces corrosion, pitting and rusting.

The unique formulation of chelants and surfactants in this premium phosphate free detergent provide a stabilized formula that is capable of cleaning a multitude of soils on most surfaces. At recommended use dilution Cage2Wash 4 is compatible for use on stainless steel, soft metals, plastics and most elastomers.

Typical use dilution is .5 - 3%. Precise temperature, concentration and cleaning time will depend on the degree and type of soil present. All surfaces should be rinsed thoroughly to remove all product and soil residue following cleaning.

Features	Benefits
Contains chelating agents	Hard water tolerant
Contains premium surfactants	Great wetting ability for optimal penetration
Highly concentrated	Low cost per use
No foaming	Ideal for optimal automated cleaning
Lot specific documentation package	Product consistency and integrity
Optimal formulation	Eliminates the need for hazardous organic solvents
Phosphate Free	Ecologically safe

Available in 1, 5, 30, 55, and 275 gallon containers.

CAGE2WASH four

Specifications

Appearance	Pale Yellow Liquid
Odor	Slight Chemical
Detergency	Excellent
Specific Gravity	1.12
pH @ 1% Solution (normal)	2.8
Solubility	Complete
Foaming	Minimal to none
Rinsing	Excellent
Biodegradable	Yes
Storage Recommendation	32°F – 90°F
P Content	0.00%
N Content	0.00%
Flash Point	Not Applicable
Specific Conductivity	1.12 mS/cm (1% deionized water) @ 21°C

Material Compatibility

Under the recommended use application Cage2Wash 4 is suitable for use with stainless steel, soft metals, plastic and most elastomers.

Safety

For cautionary and first aid information, consult the material safety data sheet or product label. Please contact your Veltek sales consultant for further safety and or use recommendations. Contact VAI Customer Service for recycling options offered for 30, 55 and 275 gallon containers.

Standard Ordering Information

Order Number	Description	Container Size	Qty. per case
C-4-275G-01	Cage2Wash 4 Non-Sterile	275 Gallon	1
C-4-55G-01	Cage2Wash 4 Non-Sterile	55 Gallon	1
C-4-30G-01	Cage2Wash 4 Non-Sterile	30 Gallon	1
C-4-5G-01	Cage2Wash 4 Non-Sterile	5 Gallon	1
C-4-1G-01	Cage2Wash 4 Non-Sterile	1 Gallon	4

Lot Specific Documentation Package

All product is lot traceable and delivered each time with the lot specific certification. All lots are traced through the master batch records.

ADDITIONAL SUPPORT DOCUMENTATION PACKAGES *(AVAILABLE UPON REQUEST)*

Sample Lot Specific Certification
Technical Product PDF File
Material Safety Data Sheet
Product Cleaning Validation Report
Product Sterility Validation Report
Analytical COAs
Last-to-Rinse Reports
Specific and Non-Specific Analytical Test Methods for Detection

CAGE2WASH

CAGE2WASH 5

CITRIC ACID CLEANER/DESCALER

Cage2Wash 5 is a high performance concentrated liquid citric acid cleaning agent/descaler designed specifically for the Life Science, Animal Research, Research & Development and Manufacturing industries.

Applications

Cage2Wash 5 is optimally formulated for use on all process and laboratory equipment in automated wash, pressure spray and soak applications. It is extremely effective in cleaning and descaling a wide assortment of soils including but not limited to inorganic salts, particulate carbon, proteins, urine scales, animal fats and most all types of organics on stainless steel, soft metals and assorted polymers (caging materials). Routine use of this product reduces corrosion, pitting and rusting.

The unique formulation of chelants and surfactants in this premium detergent provide a stabilized formula that is capable of cleaning a multitude of soils on most surfaces. Cage2Clean 5 at recommended use dilution is compatible for use on stainless steel, soft metals, glass and a wide variety of plastics.

Typical use dilution is .25 - 5%. Precise temperature, concentration and cleaning time will depend on the degree and type of soil present. All surfaces should be rinsed thoroughly to remove all product and soil residue following cleaning.

Features	Benefits
Contains chelating agents	Hard water tolerant
Contains premium surfactants	Great wetting ability for optimal penetration
Highly concentrated	Low cost per use
No foaming	Ideal for optimal automated cleaning
Lot specific documentation package	Product consistency and integrity
Optimal formulation	Eliminates the need for hazardous organic solvents
Phosphate free	Ecologically safe

Available in 1, 5, 30, 55, and 275 gallon containers.

CAGE2WASH five

Specifications

Appearance	Yellow Liquid
Odor	Slight Chemical
Detergency	Excellent
Specific Gravity	1.16
pH @ 1% Solution (normal)	2.951
Solubility	Complete
Foaming	Minimal to none
Rinsing	Excellent
Biodegradable	Yes
Storage Recommendation	32°F – 90°F
P Content	0.00%
N Content	0.00%
Flash Point	Not Applicable
Specific Conductivity	0.85 mS/cm (1% deionized water) @ 21°C

Material Compatibility

Under the recommended use application Cage2Wash 5 is suitable for use with stainless steel, soft metals, glass, polycarbonate, polysulfone and most elastomers.

Safety

For cautionary and first aid information, consult the material safety data sheet or product label. Please contact your Veltek sales consultant for further safety and or use recommendations. Contact VAI Customer Service for recycling options offered for 30, 55 and 275 gallon containers.

Standard Ordering Information

Order Number	Description	Container Size	Qty. per case
C-5-275G-01	Cage2Wash 5 Non-Sterile	275 Gallon	1
C-5-55G-01	Cage2Wash 5 Non-Sterile	55 Gallon	1
C-5-30G-01	Cage2Wash 5 Non-Sterile	30 Gallon	1
C-5-5G-01	Cage2Wash 5 Non-Sterile	5 Gallon	1
C-5-1G-01	Cage2Wash 5 Non-Sterile	1 Gallon	4

Lot Specific Documentation Package

All product is lot traceable and delivered each time with the lot specific certification. All lots are traced through the master batch records.

ADDITIONAL SUPPORT DOCUMENTATION PACKAGES *(AVAILABLE UPON REQUEST)*

Sample Lot Specific Certification
Technical Product PDF File
Material Safety Data Sheet
Product Cleaning Validation Report
Product Sterility Validation Report
Analytical COAs
Last-to-Rinse Reports
Specific and Non-Specific Analytical Test Methods for Detection

CAGE2WASH N

ALKALINE BASED NEUTRALIZER

Specifically Designed for Animal Research and Manufacturing Facilities

Cage2Wash N is a highly concentrated liquid alkaline based neutralizing agent used to raise solution pH. It is used to neutralize acidic solutions and allow for permissable effluent compliance where pH ranges are established. Cage2Wash N is phosphate free and non-foaming.

Applications

Cage2Wash N is used wherever pH adjustment is needed. The concentrate use dilution will be conditional on the pH desired and the solution "soil" to be adjusted. Concentrate Cage2Wash N should be mixed slowly to optimize results and avoid potential violent reactions.

Cage2Clean N should not be diluted prior to use.

Features	Benefits
Concentrated Formula	Minimize actual use dilution for low cost per use
No foaming	Ideal for optimal automated cleaning
Lot specific documentation package	Product consistency and integrity
Phosphate free	Ecologically safe

Available in 55, and 275 gallon containers.

CAGE2WASH N

Specifications

Appearance	Clear to Opague Liquid
Odor	Odorless
Detergency	Moderate
Specific Gravity	1.53
pH @ 1% Solution (normal)	13.7
Solubility	100%
Foaming	None
Rinsing	Excellent
Biodegradable	Yes
Storage Recommendation	32°F – 90°F
P Content	0.00%
N Content	0.00%
Flash Point	Not Applicable

Material Compatibility

The neutralized solution is safe for use on all stainless steel surfaces.

Safety

Contains sodium hydroxide (CAS#1310-73-2). Causes burns. Harmful if swallowed. Do not get in eyes, on skin or clothing. Avoid breathing in mist. Wear goggles or full face shield, rubber gloves and protective clothing when handling. For cautionary and first aid information, consult the material safety data sheet or product label. Please contact your Veltek sales consultant for further safety and/or use recommendations.
Contact VAI Customer Service for recycling options offered for 30, 55 and 275 gallon containers.

Standard Ordering Information

Order Number	Description	Container Size	Qty. per case
C-N-275G-01	Cage2Wash N Non-Sterile	275 Gallon	1
C-N-55G-01	Cage2Wash N Non-Sterile	55 Gallon	1
C-N-30G-01	Cage2Wash N Non-Sterile	30 Gallon	1
C-N-5G-01	Cage2Wash N Non-Sterile	5 Gallon	1
C-N-1G-01	Cage2Wash N Non-Sterile	1 Gallon	4

Lot Specific Documentation Package

All product is lot traceable and delivered each time with the lot specific certification.
All lots are traced through the master batch records.

DECON-QUAT 200V

VETERINARY DISINFECTANT, VIRUCIDE, SANITIZER, FUNGICIDE

Available Non-Sterile Formulation

DECON-QUAT 200V is a veterinary disinfectant, virucide, sanitizer, fungicide designed specifically for the life science and research and development industries.

Applications

DECON-QUAT 200V is a quatenary ammonium solution for use in Veterinary, Dairy, Equine, Poultry Plants, Poultry/Turkey Farm, Hospitals, Nursing Homes, Restaurant, Food Handling and Process areas, Households, Hotels & Motels, Food Service, Commercial, Institutional and Industrial Use. Effective as a broad spectrum disinfectant, virucide, non-food contact sanitizer, and fungicide.

DECON-QUAT 200V when used as a general disinfectant on hard, non-porous surfaces at 1/2 ounce per gallon of water for 10 minutes of contact time is effective against: *Acinetobacter baumannii, Acinetobacter Iwoffi, Bordetella bronchiseptica, Chlamydia psittaci, Citrobacter freundii, Enterobacter agglomerans, Enterobacter aerogenes, Enterobacter cloacae, Escherichia coli, Escherichia coli 0111:H8, Extended spectrum B-Lactamase (ESBL), Escherichia coli,* Tetracycline Resistant *Escherichia coli, Enterococcus faecalis, Enterococcus hirae, Fusobacterium necrophorum, Klebsiella oxytoca, Klebsiella pneumonia, Listeria monocytogenes, Micrococcus luteus, Pasturella multocida, Proteus vulgaris, Salmonella enterica, Salmonella enterica serotype pullorum, Salmonella typhi, Salmonella typhimurium, Serratia marcescens, Shigella flexneri, Shingella sonnei, Staphylococcus aureus, Staphylococcus aureus* sub species *aureus,* Community Associated Methicillin Resistant *Staphylococcus aureus* (CA-MRSA), Methicillin Resistant *Staphylococcus aureus (MRSA), Staphylococcus epidermidis,* Antibiotic resistant *Staphylococcus epidermidis, Streptococcus agalactiae, Staphylococcus haemolyticus, Streptococcus pneumonia* Penicillin Resistant, *Streptococcus pyogenes, Streptococcus mutans,* Vancomycin Resistant *Enterococcus faecalis* (VRE), Vancomycin Intermediate Resistant *Staphlococcus aureus (VISA), Vibrio cholera, Yersinia enterocolitica.*

DECON-QUAT 200V when used as a fungicide on hard, non-porous surfaces at 1/2 ounce per gallon (660 ppm active) of water for 10 minutes of contact time is highly effective against the following: *Aspergillus niger, Candida albicans, Trichophyton mentagrophytes.*

DECON-QUAT 200V Virucidal performance: At a 1/2 ounce per gallon of water use level (660 ppm active) this product was evaluated in the presence of 5% serum with a 10 minute contact time and found to be effective against the following viruses: *Avian Infectious Bronchitis virus Beaudette IB42, Avian Influenza A H5N1* virus, *Avian Influenza* A H3N2 virus, *Canine Coronavirus, Canine Distemper virus, Feline Picornavirus, Infectious Bovine Rhinotracheitis virus, Pseudorabies virus, Swine Influenza* A H1N1 virus, *Transmissible Gastroenteritis* virus, *Vaccinia* virus.

EFFECTIVENESS AGAINST CANINE PARVOVIRUS (CPV), MICE PARVOVIRUS, PORCINE PARVOVIRUS AND RABIES: At 2 ounce per gallon of water use level, this product was evaluated in the presence of 5% serum and with a 10 minute contact time and found to be effective against the following viruses on hard, non-porous surfaces: *Canine Parvovirus (CPV) Mice Parvovirus, Porcine Parvovirus and Rabies*.

Specifications

Appearance	Clear Liquid
Specific Gravity	1.01
pH @ 1% Solution (normal)	6.0 to 8.0
Solubility	Complete
Foaming	Moderate
Rinsing	Excellent
Viscosity @ 25°C	>100

Features	Benefits
EPA Registered Disinfectant, Virucide, and Fungicide	This product is proved to be effective againt a wide array of organisms as noted throughout this technical data bulletin when used as directed. The verified results provide an added level of quality assuraqnce to your overall cleaning and disinfection program.
Neutral pH	Non-corrosive to most all substrates at recommended use dilution. Pitting and corrosion is the result of aggressive decontamination agents which may lead to harborage of organisms that may adversely affect your overall cleaning program.
Free Rinsing	The formula is designed to easily rince free from product surfaces. Water rinse time period and volume is minimal.
Manufactured and tested from beginning to end in a FDA, EPA registered manufacturing facility.	Meets the highest standards in manufacturing and processing.
High Level of Quality	All products are made in controlled environments that include Class 10,000 and Class 100,000. This assures the highest level of quality and cleanliness of the final product. Lot specific analysis is available and product is fully traceable.
Phosphate Free Detergent	Environmentally safe and no further pH balancing is required for effluent.
Concentrated Formulation	Low cost per use is realized due to high concentration formula. Actual use dilution is dependent upon the decontamination requirements of the specific organisms present. Efficacy can be achieved as low as 660 ppm or 1/2 ounce per gallon of water for most broad spectrum claims, animal virucidal claims and fungicidal claims. 2 Ounce per gallon of water is required for Parvovirus and Rabies claims.

Available in 1, 5, 30 and 55 gallon containers.

Safety

For cautionary and first aid information, consult the material safety data sheet or product label. Please contact your Veltek sales consultant for further safety and/or use recommendations.

Standard Ordering Information

Order Number	Description	Container Size	Qty. per case
DQ200V-1G-01	DECON-QUAT 200V Non-Sterile	1 Gallon	4
DQ200V-5G-01	DECON-QUAT 200V Non-Sterile	5 Gallon Pail	1
DQ200V-30G-01	DECON-QUAT 200V Non-Sterile	30 Gallon Drum	1
DQ200V-55G-01	DECON-QUAT 200V Non-Sterile	55 Gallon Drum	1

Lot Specific Documentation Package

All product is lot traceable and delivered each time with the lot specific certification. All lots are traced through the master batch records.

CORE

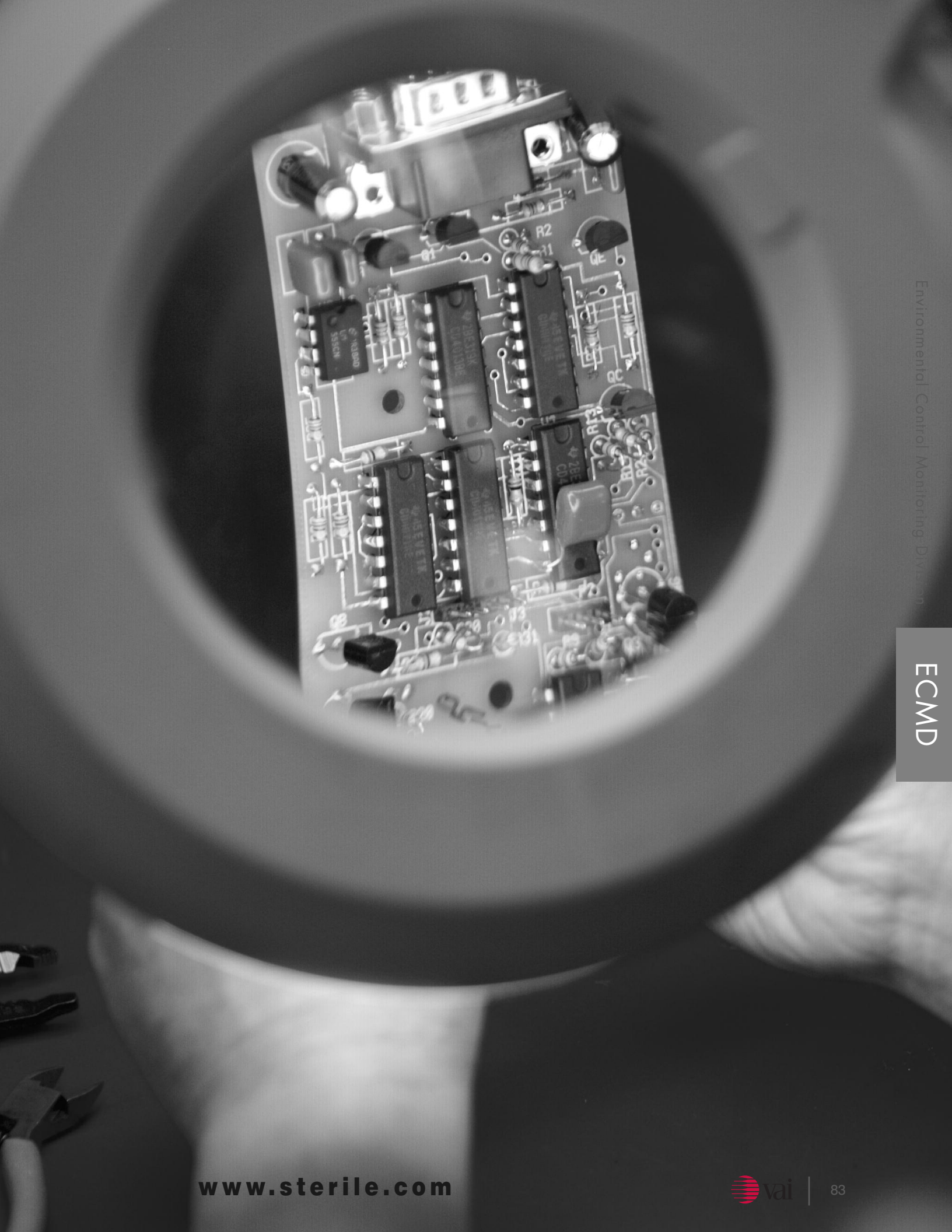
CRITICAL ONGOING RESIDUE EVALUATION

What is CORE?

While years have gone by and technology has changed, many GMP firms have not re-evaluated the effectiveness of their process cleaning detergent (CIP) products. At the same time, the industry grows and new operations manufacturing new products blossom each day. In both scenarios, the need for routine evaluations to be conducted is essential. In the competitive world, cleaning down time costs firms enormous amounts of overhead time and money. Normally these costs can be dramatically reduced by the use of more efficient and state-of-the-art detergents that work specifically against residues in current times. At the same time, firms also find that combination cleaning, not in present scopes reduce the amount of cleaning time, cleaning chemicals used and the level of personnel required to clean critical surfaces.

The proper selection of optimal detergents can also positively affect; substrate integrity, effleunt concerns, overall chemical usage, storage & inventory issues. The CORE (Critical Ongoing Residue Evaluation) System is a service offered within the VAI Laboratories division of VAI. The focus of the division is to provide our clients with a specialized laboratory service that can assist them in performing product contact cleaning validation studies as an external service. This department utilizes user product residues on stainless steel coupons in our unique CORE Analysis Chamber to determine the level of cleaning achieved by detergents that are utilized in operations.

The CORE System provides an excellent means to define where present systems are and where they want to be in the future. May it be older operations or a new operation, the CORE System provides the requirements necessary to meet both internal requirements and external regulatory expectations by providing you, the end user, sound scientific rationale in your detergent selection process. Veltek comprehensive pharma-biotech cleaning program also provides analytical methods of detection specific to over process cleaners as well as compatibility, TOC curves, conductivity curves, toxicological reports, and other controlled documents to help support your cleaning vaildation plans.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WELCOME TO ECMD

ENVIRONMENTAL CONTROL MONITORING DIVISION

ECMD or VAI's Environmental Control Monitoring Division has addressed the needs of the Pharmaceutical, Biotechnology, Semi-Conductor, and Electronics industries by designing a complete range of air testing equipment that addresses viable air sampling and the contamination levels of products deemed suitable for clean room operations.

VAI's ECMD manufactures the SMA™ Microbial Air Sampler Systems and the Helmke-Yeich™ (H-Y) Tumble Drum Tester.

The SMA Microbial Air Sampler Systems are designed to test air within the clean room setting for discerning the level of viable contamination that is present in a volume of air. As one of the premier sampling methods in the pharmaceutical and biotechnology industries for over 26 years, the SMA Micro Sampler Systems offer a complete range of products to meet all requirements for quantitative microbial air testing. The SMA Systems include the SMA Atrium, SMA Remote Sampler, SMA Compressed Air Sampler, SMA CC Control Centers, SMA DDC Control Centers, SMA ISO-CC Control Centers and the SMA MicroPortable.

The SMA Atrium and Control Centers with OneTouch Command Systems features provide the ability to test multi-locations and incorporate a facility wide monitoring system. Outlined in the pages to follow, the SMA Micro Sampler Systems and SMA One Touch Command Systems are available in models that test from one (1) to ten (10) locations. The SMA ISO-CC Control Centers are designed for use with isolators or barrier systems and incorporate OneTouch Command System features for testing 1 to 10 locations simultaneously or independently.

In addition to our facility monitoring systems, the SMA MicroPortable is a battery operated unit that provides portability for the testing of viable airborne contaminates. The SMA Compressed Air Sampler with portable and stationary devices are designed to assist in delineating the microbial levels of compressed air and gas systems.

ECMD also manufactures the H-Y Tumble Drum Tester. The H-Y Tumble Drum Tester is a recommended method for testing and disseminating the inherent contamination levels of products deemed suitable for the controlled environment by the Institute of Environmental Sciences RP3. These products are described on the following pages.

ECMD-ENVIRONMENTAL CONTROL MONITORING DIVISION

86 SMA Atrium
87 SMA Remote Atrium
88 SMA Compressed Air Sampler
90 SMA Control Centers
92 SMA OneTouch Command System (CC)
94 SMA DDC Control Centers
96 SMA OneTouch Command System (DDC)
98 SMA Wireless Control Panels
99 SMA OneTouch
100 SMA ISO-CC Isolator
101 SMA MicroPortable
102 How to Purchase an SMA System
108 HY Tumble Drum Tester

SMA™ ATRIUM

For over 26 years, the SMA Atrium has been the chosen test method of many pharmaceutical and biotechnology organizations for determining the level of existent microbial contaminants in their manufacturing operations.

FEATURES:

- Can be completely sterilized by steam, heat or ETO
- Constructed of either anodized aluminum, or 316L Stainless Steel
- Durable and low maintenance
- 4-1/2" in diameter by 1-1/2" in height
- Compact size allows the sampling device to be located near filling processes where space is limited
- Reports accurately the air quality near fill areas and reduce false positives from operators
- Operates at an air flow of 1 cubic foot per minute (1CFM)
- Designed to provide a tortuous path that air must travel, which assures a 95% capture efficiency of 0.5 micron particles and larger
- 12 top orifices available in 1/2", 1/4" and 3/32" provide the ability to sample for varying time periods
  - Top orifice size is dependent upon the desired exposure time versus desiccation of the nutrient media
  - 3/32" top orifice allows a maximum 60 minute exposure time
  - 1/2" and 1/4" top orifices allow up to 3 hours of exposure time (dependent upon conditions)
- Utilizes a 100 mm plate filled to either 25mL or 32mL of nutrient media (common fill levels from most suppliers)
  - The 25mL fill provides the ability to sample up to 90 minutes on one agar plate
  - The 32mL fill provides the ability to sample up to 3 hours on one agar plate (dependent upon conditions)
- Requires only a vacuum source to operate
  - Sources can be either central vacuum systems or one of the VAI 1 thru 10 location control centers

AVAILABLE TECHNICAL DATA SUPPLEMENTS *(UPON REQUEST)*

SMA Atrium Validation Report
SMA Atrium User Manual

Order#	Atrium Description
SMA-316-18-1/4	Complete Unit (top and bottom)
SMA-316-18-1/2	Complete Unit (top and bottom)
SMA-316-25-1/4	Complete Unit (top and bottom)
SMA-316-25-1/3	Complete Unit (top and bottom)
SMA-316-32-1/4	Complete Unit (top and bottom)
SMA-316-32-1/2	Complete Unit (top and bottom)
SMA-316-T-18-1/4	316 Stainless Steel SMA 18 ml. fill Top Only
SMA-316-T-18-1/2	316 Stainless Steel SMA 18 ml. fill Top Only
SMA-316-T-25-1/4	316 Stainless Steel SMA 25 ml. fill Top Only
SMA-316-T-25-1/2	316 Stainless Steel SMA 25 ml. fill Top Only
SMA-316-T-32-1/4	316 Stainless Steel SMA 32 ml. fill Top Only
SMA-316-T-32-1/2	316 Stainless Steel SMA 32 ml. fill Top Only
SMA-316-18-OB	316 Stainless Steel SMA 18 ml. fill Bottom Only
SMA-316-25-OB	316 Stainless Steel SMA 25 ml. fill Bottom Only
SMA-316-32-OB	316 Stainless Steel SMA 32 ml. fill Bottom Only

SMA™ REMOTE ATRIUM

In some instances the use of the SMA Remote Atrium may be necessary when the size of the SMA Atrium, while small, may be too large to fit into a location deemed critical to be tested for microbial contaminants.

FEATURES:

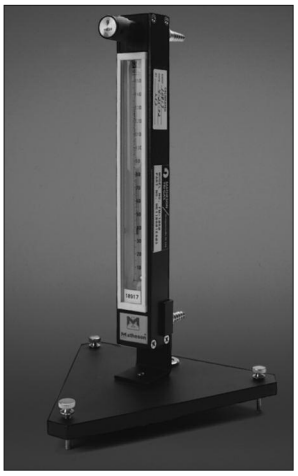
- Designed with one extension tube protruding from the top that serves as a connection point for either disposable tubing or stainless steel connections
- Able to be located away from the point of sample
- Can be completely sterilized via steam, heat or ETO
- Constructed of 316L Stainless Steel
- Durable and low maintenance
- 4-1/2" in diameter by 1-1/2" in height
- Compact size allows the sampling device to be located near filling processes where space is limited
- Reports accurately the air quality near fill areas and reduce false positives from operators
- Operates at an air flow of 1 cubic foot per minute (1CFM)
- Designed to provide a tortuous path that air must travel, which assures a 95% capture efficiency of 0.5 micron particles and larger
- Integrates a 1/4" ID connection that easily attaches to pre-sterilized tubing
- Utilizes a 100 mm plate filled to either 25mL or 32mL of nutrient media (common fill levels from most suppliers)
  - The 25mL fill provides the ability to sample up to 60 minutes on one agar plate
- Requires only a vacuum source to operate
  - Sources can be either central vacuum systems or one of the VAI 1 thru 10 location control centers

AVAILABLE TECHNICAL DATA SUPPLEMENTS *(UPON REQUEST)*

SMA Atrium Validation Report
SMA Atrium User Manual

Order#	Atrium Description
SMA-316-RE-18	Complete Atrium 316 Stainless Steel REMOTE SMA 18 ml. fill
SMA-316-RE-18-OB	316 Stainless Steel REMOTE SMA 18 ml. fill Bottom Only
SMA-316-RE-TO-18	316 Stainless Steel REMOTE SMA 18 ml. fill Top Only
SMA-316-RE-25	Complete Atrium 316 Stainless Steel REMOTE SMA Complete Unit 25 ml. fill
SMA-316-RE-25-OB	316 Stainless Steel REMOTE SMA 25 ml. fill Bottom Only
SMA-316-RE-TO-25	316 Stainless Steel REMOTE SMA 25 ml. fill Top Only
SMA-316-RE-32	Complete Atrium 316 Stainless Steel REMOTE SMA Complete Unit 32 ml. fill
SMA-316-RE-32-OB	316 Stainless Steel REMOTE SMA 32 ml. fill Bottom Only
SMA-316-RE-TO-32	316 Stainless Steel REMOTE SMA 32 ml. fill Top Only

SMA™ COMPRESSED AIR SAMPLER



SMA-ROT-SS

SMA-CA-200

The SMA Compressed Air/Gas Atrium is used for the quantitative collection of microorganisms that may be present in compressed air and gas lines. The design and construction assures that a sterile test instrument is present to evaluate possible viable contaminants.

FEATURES:

- Can be completely sterilized by steam, heat or ETO
- Constructed of either anodized aluminum, 316L Stainless Steel
- Durable and low maintenance
- 4-1/2" in diameter by 1-1/2" in height (Atrium dimensions)
- Compact size allows the sampling device to be located near filling processes where space is limited
- Reports accurately the air quality near fill areas and reduce false positives from operators
- Can be easily and aseptically connected to the desired points of sample by use of sterile 3/8" PVC tubing
- Connections are made from the top orifice of the SMA Compressed Air Atrium directly to regulated compressed air/gas locations
- Has a flow rate of 1 to 2 CFM
- Tested and validated to achieve a 95% capture efficiency
- Exhaust air is released from underneath the unit directly to the environment without affecting the sample in progress
- Uses a 100mm plate with a media fill of 25mL (standard from most suppliers)
- The 25mL fill allows the user the ability to sample up to 90 cubic feet on one agar plate
- Air flow regulation can be accomplished either by the installation of a pressure regulator valve at point of sample or by use of the SMA-ROT-SS Rotameter
- Assures direct testing of air/gas from the compressed air line to the SMA CA Sampler without the intrusion of the metering device

SMA™ PORTABLE COMPRESSED AIR SAMPLER (SMA-CA-200)

FEATURES:

- Adds calibrated flow and timing features to sampling compressed air/gas line
- Made of mirror-finished 316 Stainless Steel
- Incorporates a 4 hour continuous operation battery that can be recharged in 45 minutes
- Simply connecting a compressed air line to the top of the unit can reduce pressure and assure a 1 CFM (28.3LPM) flow rate

SMA-316-CA-25	316 Stainless CA 25 mL fill level
SMA-ROT-SS	Stainless Steel Rotameter
SMA-CC-STAND	Rotameter Stand
SMA-CA200	SMA Portable Compressed Air Sampler
SMA-CA200-500	Additional Sampling Head
SMA-CA201	SMA Portable Compressed Air Sampler with digital flow switch

AVAILABLE TECHNICAL DATA SUPPLEMENTS *(UPON REQUEST)*

SMA Compressed Air Validation Report
SMA Atrium User Manual

SMA™ COMPRESSED AIR SAMPLER

SMA™ PORTABLE COMPRESSED AIR SAMPLER (SMA-CA-201)

SMA-CA-201

FEATURES:

- Adds calibrated flow and timing features to sampling compressed air/gas line
- Made of 304 & 316 Stainless Steel
- Incorporates a 3 hour continuous operation battery that can be recharged quickly.
- Incorporates a digital flow switch that is easily read from any angle.

SMA™ MULTI LOCATION CONTROL CENTERS

The SMA Control Centers are available in two models: The “EX Model” Control Center requires the end user to supply a vacuum source either from a central vacuum system or a separate vacuum pump. The “CC Model” Control Center is designed and supplied with an external pump (exception is the SMA-CC-1 that incorporates an internal pump). The SMA Control Centers provide calibrated flow regulation, timing and the ability to connect the VAI OneTouch, Command System Accessory. The following are brief descriptions of the available SMA Control Centers. (Available in 115V or 220VAC).

SMA-CC-1

SMA-CC-2

SMA-CC-3

SMA-EX-1 FEATURES:

- Designed for use with central vacuum systems or external pumps
- Incorporates 1 rotameter, 1 programmable (memory) timer and a solenoid in a 304L Stainless Steel cabinet
- 8" long by 8" wide by 6" high
- Ensures the integration of calibrated time and flow
- Runs for a specified time period, then automatically turns off the vacuum to the SMA Atrium

SMA-CC-1 FEATURES:

- Designed for use as a stand alone unit
- Incorporates 1 flow switch, 1 programmable (memory) timer, and a 1/6 HP pump in a 304L Stainless Steel cabinet
- 16" long by 12" wide by 8-1/2" high
- Ensures the integration of calibrated time and flow
- Runs for a specified time period, then automatically turns off the vacuum to the SMA Atrium

SMA-EX-2 (no pump) and SMA-CC-2 (includes pump) FEATURES:

- Enables 2 location testing simultaneously or independently
- Incorporates 2 rotameters and 2 programmable (memory) timers in a 304L Stainless Steel cabinet
- 16" long by 12" wide by 8 1/2" high
- Ensures the integration of calibrated time and flow
- Runs for a specified time period, then automatically turns off the vacuum to the SMA Atrium
- Timers run independently from each other while utilizing a common vacuum source
- SMA-CC-2 includes a 1 HP pump

SMA-EX-3 (no pump) and SMA-CC-3 (includes pump) FEATURES:

- Enables 3 location testing simultaneously or independently
- Incorporates 3 rotameters and 3 programmable (memory) timers in a 304L Stainless Steel cabinet
- 16" long by 17" wide by 8-1/2" high
- Ensures the integration of calibrated time and flow
- Runs for a specified time period, then automatically turns off the vacuum to the SMA Atrium
- Timers run independently from each other while utilizing a common vacuum source
- SMA-CC-3 includes a 1 HP pump

SMA-EX-5 (no pump) SMA-CC-5 (includes pump) FEATURES:

- Enables 5 location testing done simultaneously
- Incorporates 5 rotameters, 1 programmable (memory) timer and 1 solenoid in a 304L Stainless Steel cabinet
- 16" long by 17" wide by 8-1/2" high
- Ensures the integration of calibrated time and flow
- Runs for a specified time period then automatically turns off the vacuum to the SMA Atrium
- Timers run independently from each other while utilizing a common vacuum source
- SMA-CC-5 includes a 1-1/2 HP pump

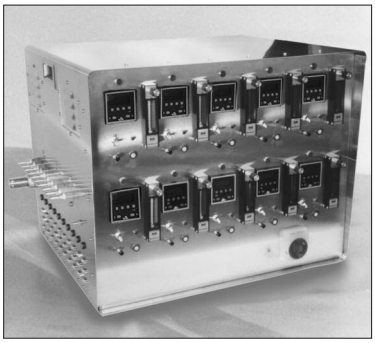
SMA-EX-5-5 (no pump) SMA-CC-5-5 (includes pump) FEATURES:

- Enables 5 location testing done simultaneously or independently
- Incorporates 5 rotameters and 5 programmable (memory) timers in a 304L Stainless Steel cabinet
- 23" long by 28" wide by 13-1/2" high
- Ensures the integration of calibrated time and flow
- Runs for a specified time period then automatically turns off the vacuum to the SMA Atrium
- Timers run independently from each other while utilizing a common vacuum source
- The choice for setup of a OneTouch System

SMA-CC-5-5

SMA-CC-10 (includes pump) FEATURES:

- Enables 10 location testing simultaneously or independently
- Incorporates 10 rotameters and 10 programmable (memory) timers in a 304L Stainless Steel cabinet
- 23-1/4" long by 28" wide by 22" high
- Ensures the integration of calibrated time and flow
- Runs for a specified time period then automatically turns off the vacuum to the SMA Atrium
- Timers run independently from each other while utilizing a common vacuum source
- SMA-CC-10 includes a 5 HP pump
- Designed to be integrated with the OneTouch System allowing remote location of the control center and pump.



SMA-CC-10

COMMON OPERATIONAL FEATURES:

- Time duration of sample is programmed in timer's non-volatile memory. Each timer is programmed individually.
- Abort a sampling cycle by momentarily pushing the Program/Abort switch DOWN
- Vacuum (air) flow per port is controlled by its dedicated flow switch pinch valve.
- VAC/MOT voltage outlet is controlled by selected port timer. Vacuum is supplied on demand when a sample cycle is initiated.
- Port vacuum (air connection to MOT/VACI is opened during sample cycle and shut during non-sample cycles)
- ETL and CE compliant.
- Audible alarm will sound when there is a 1 CFM air flow error for any Port. There is also a LED lamp that will light where a 1 CFM error occurs. There is a switch to disable the audible alarm but the LED lamp 1 CFM error will remain active.
- Isolator Interface - capable of connecting to Scada System directly or to DLC connection.
- Easy connection to accessories: SMA-OT-04, Wireless, Panels.

SMA-CC-INTF-10

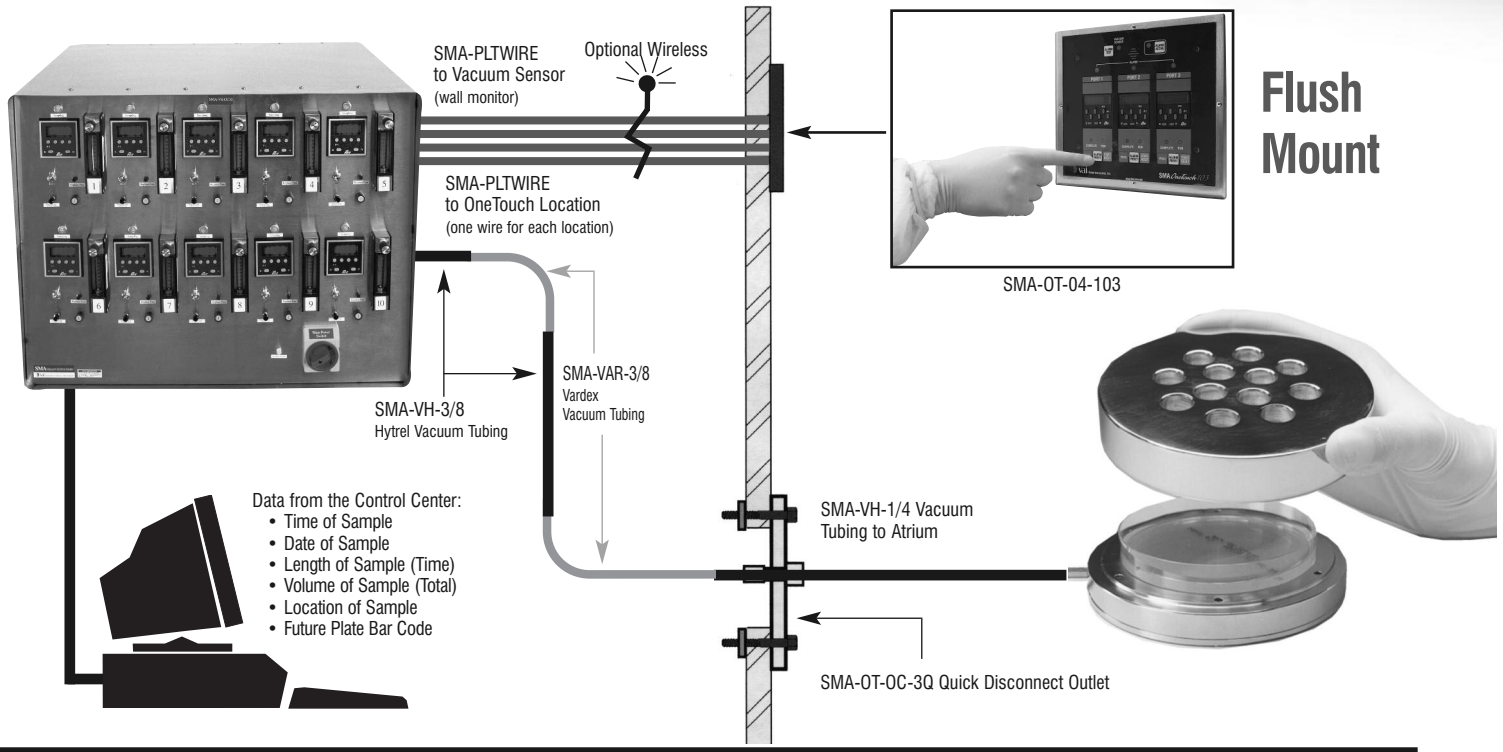
Order#	Atrium Description
SMA-EX-1	1 Location EX (without pump) Control Center
SMA-EX-2	2 Location EX (without pump) Control Center
SMA-EX-3	3 Location EX (without pump) Control Center
SMA-EX-5	5 Location EX (without pump) Control Center with timer
SMA-EX-5-5	5 Location Independent Control Center (without pump)
SMA-CC-1	1 Location CC Control Center with Internal pump
SMA-CC-2	2 Location CC Control Center with External pump
SMA-CC-3	3 Location CC Control Center with External pump
SMA-CC-5	5 Location CC Control Center with timer and External pump
SMA-CC-5-5	5 Location Independent Control Sensor with pump
SMA-CC-10	10 Location CC Control Center with External pump
SMA-VPS-02	Vacuum Pump Center for CC-1 thru CC-5
SMA-CC-INTF-5	SMA OneTouch Interface Module for 5 Location
SMA-CC-INTF-10	SMA OneTouch Interface Module

AVAILABLE TECHNICAL DATA SUPPLEMENTS *(UPON REQUEST)*

SMA Atrium Validation Report
SMA Control Center User Manual

SMA ONETOUCH™ COMMAND SYSTEM

MICROBIAL AIR SAMPLING SYSTEM



Flush Mount

SMA-OT-04-103

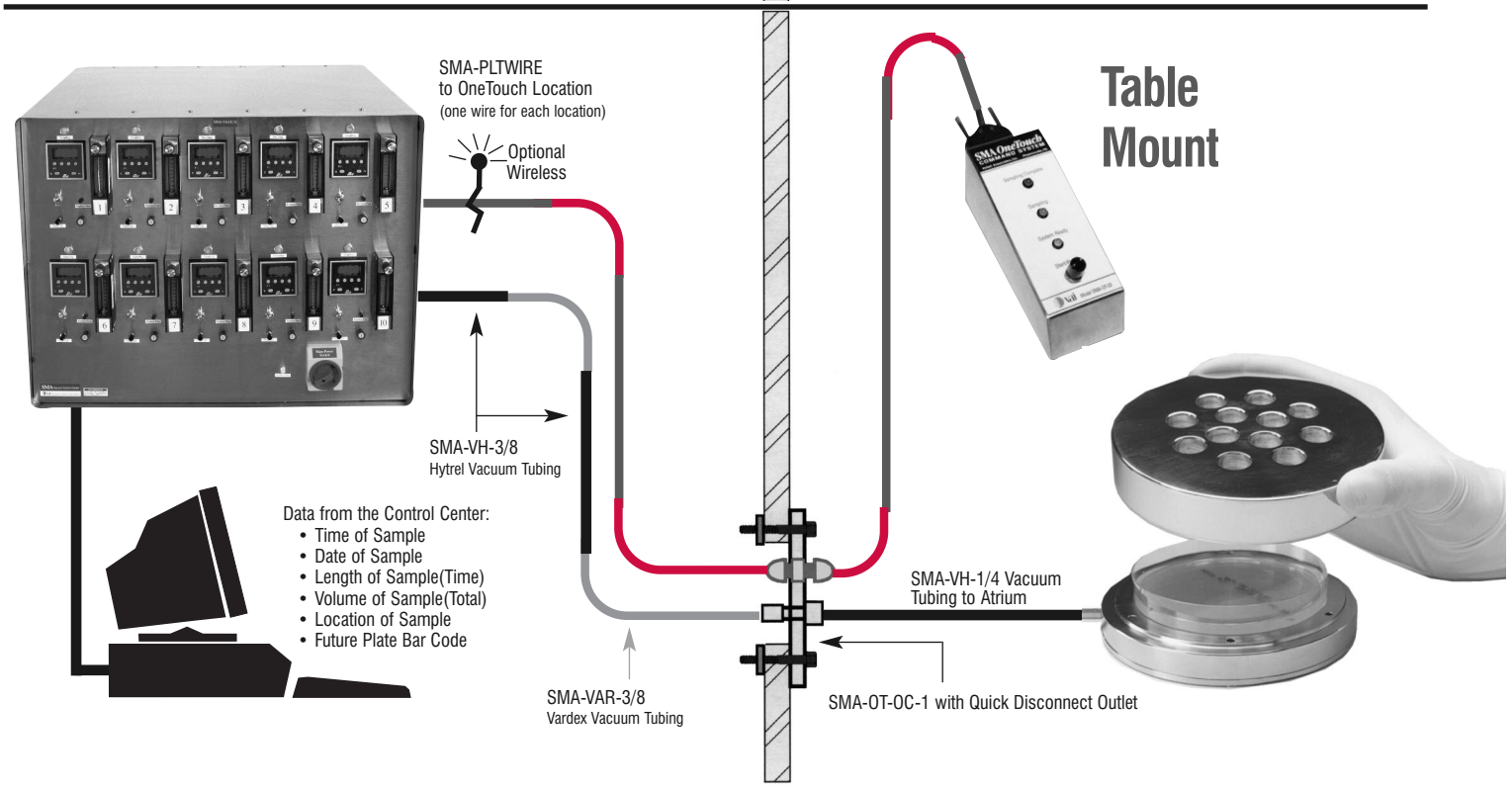


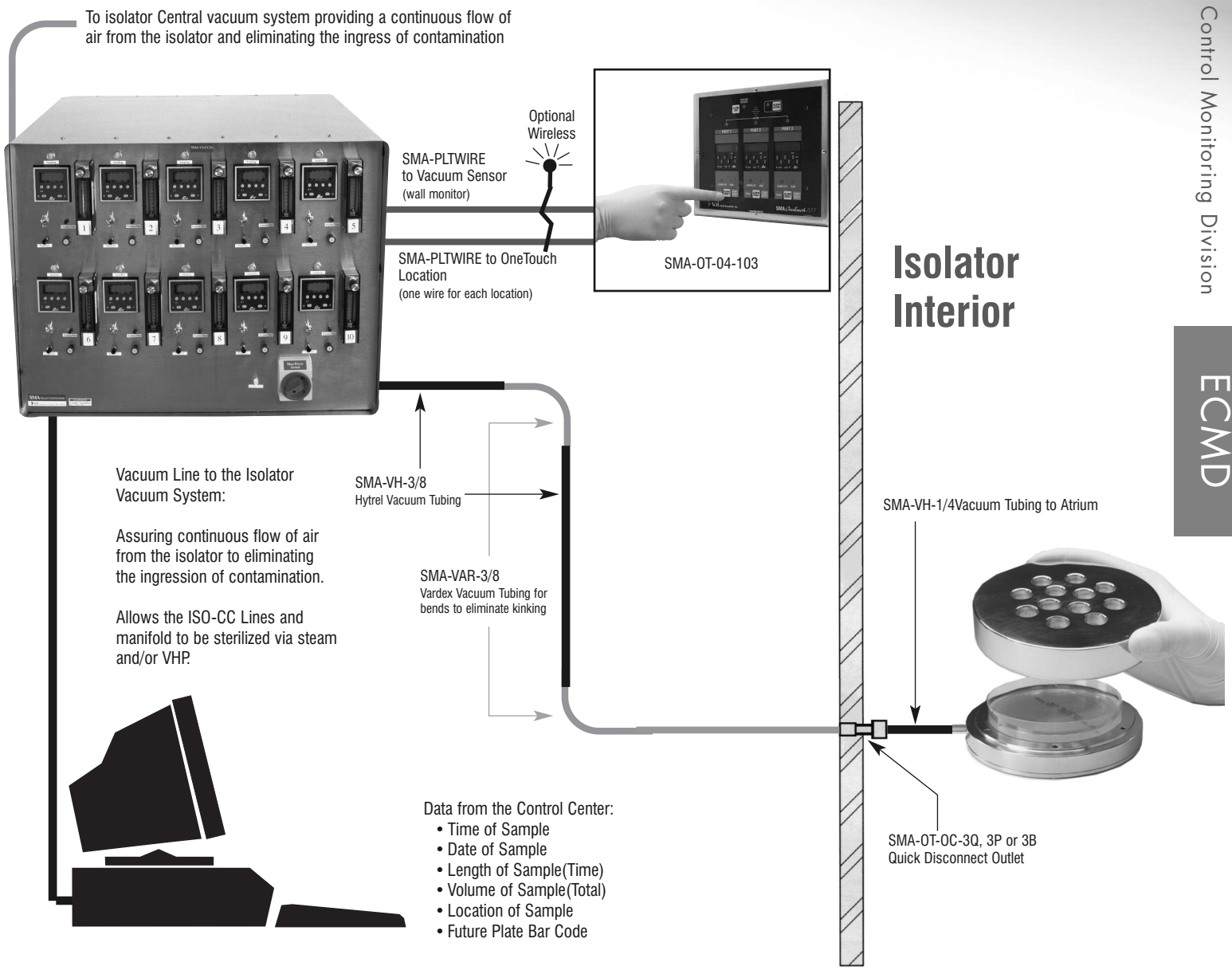
Table Mount

SMA ONETOUCH™ COMMAND SYSTEM

ISO-CC

Microbial Air Sampling System – ISO-CC

The SMA OneTouch System removes electronic devices from the area. Within the area is only a flush mount or table top start module and an SMA Atrium that is connected by 1/4" ID tubing to a stainless steel quick disconnect outlet cover on the wall.


To isolator Central vacuum system providing a continuous flow of air from the isolator and eliminating the ingress of contamination
Optional Wireless
SMA-PLTWIRE to Vacuum Sensor (wall monitor)
SMA-PLTWIRE to OneTouch Location (one wire for each location)
SMA-OT-04-103
Isolator Interior
Vacuum Line to the Isolator Vacuum System:
Assuring continuous flow of air from the isolator to eliminating the ingression of contamination.
Allows the ISO-CC Lines and manifold to be sterilized via steam and/or VHP.
SMA-VH-3/8 Hytrel Vacuum Tubing
SMA-VAR-3/8 Vardex Vacuum Tubing for bends to eliminate kinking
SMA-VH-1/4Vacuum Tubing to Atrium
Data from the Control Center:
• Time of Sample
• Date of Sample
• Length of Sample(Time)
• Volume of Sample(Total)
• Location of Sample
• Future Plate Bar Code
SMA-OT-OC-3Q, 3P or 3B Quick Disconnect Outlet

SMA™ DDC MULTI LOCATION CONTROL CENTERS

At present, the SMA DDC Control Centers are the most advanced control center in the SMA product line. The SMA DDC Controllers are a family of modules that control the monitoring for the presence of micro-organisms in pharmaceutical clean rooms. They are designed to be located within a clean room or more preferably external to the clean room environment controlled by use of flush mount control panels connected by cables or a wireless control panel or connected to a SCADA System. The design of the SMA DDC controller is a modular concept. Each port is independent with a dedicated flow switch and pinch valve control, a dedicated timer (that can be programmed while the module is sampling other ports), 1 CFM error detection when a sampling port does not have the programmed air flow. There is no single point of hardware failure in the event (remote chance) of a port failure, the remaining ports continue to function. The modules hardware is robust and each SMA DDC controller model incorporates the same features and benefits. Ease of various accessories configurations, ease of system installation of configured systems and user's application of system not requiring weeks of training personnel to use the system (see SMA DDC architectural figures). All SMA DDC models can be ordered without the vacuum pump.

SMA-DDC-1

Common Benefits and Features

- Third party validated for safety, RFI, EMI and CE (INTERTEK)
- 1 CFM error detection for each sampling port (audio and visual signal)
- Dedicated flow switch (digital display and control) per port
- Dedicated timer (digital display and programmable) per port
- Modular design (all ports are observed, operate and function the same) accessories can be connected during installation or at a later date when the user decides
- Connects to a wireless control touch panel (saves cost of routing cables and penetrating partitions)
- Connects to a control touch panel via cables
- Connects to a SCADA system via PLC OPC interface or cabled directly to SCADA, Interface is integrated
- Vacuum is supplied on demand (during sample cycle) only
- Simple button control to start a sample cycle, simple button control to abort a sample cycle, lamps to observe sample cycle in progress and cycle complete and 1 CFM error during a sample cycle is in progress Can connect to user's house vacuum (system) if expedient
- Audio alarm is signals a sample cycle completed
- Audio alarm to signal 1 CFM error condition

SMA DDC 1X:

The SMA DDC 1X (application) is designed to be located under a fill table, or clean room isolator. The atrium requires a short length of tube that connects to the SMA DDC 1X controller. The SMA DDC 1X module can connect to the user's house vacuum or to a vacuum module that the SMA DDC 1X can control. The advantage is that the SMA DDC 1X can be installed in clean rooms avoiding the penetration of clean room walls.

SMA-DDC-1 (built in pump)

The SMA-DDC-1 is designed for use as a stand-alone unit. The unit incorporates technology to visually and audibly signal when 1 CFM (28.3 LPM) is not attained at the point of sample. The system incorporates 1 programmable (memory) timer and a 1 CFM pump in a 304 stainless steel cabinet. The unit is small: 16"L x 12"W x 8-1/2"H. The unit is perfect for ensuring the integration of calibrated time and flow. The unit runs for a specified time period and then automatically turns off the vacuum to the SMA Atrium.

Includes isolation interface and vacuum sense port built in.

SMA-DDC-2 (includes pump)

The SMA-DDC-2 enables 2 location testing simultaneously or independently. The unit incorporates technology to visually and audibly signal when 1 CFM (28.3 LPM) is not attained at the point of sample. The system incorporates 2 programmable (memory) timers in a 316L stainless steel cabinet. The unit measures: 16"L x 12"W x 8-1/2"H. The unit is perfect for ensuring the integration of calibrated time and flow. The unit runs for a specified time period and then automatically turns off the vacuum to the SMA Atrium.

The timers run independently from each other while utilizing a common vacuum source. The SMA-DDC-2 unit includes a 1 HP pump. Includes isolation interface and vacuum sense port built in.

SMA-DDC-2

SMA-DDC-3 (includes pump)

The SMA-DDC-3 enables 3 location testing simultaneously or independently. The unit incorporates technology to visually and audibly signal when 1 CFM (28.3 LPM) is not attained at the point of sample. The system incorporates 3 programmable (memory) timers in a 304 stainless steel cabinet. The unit measures: 16"L x 17"W x 8-1/2"H. The unit is perfect for ensuring the integration of calibrated time and flow. The unit runs for a specified time period and then automatically turns off the vacuum to the SMA Atrium.

The timers run independently from each other while utilizing a common vacuum source. The SMA-DDC-3 unit includes a 1 HP pump. Includes isolation interface and vacuum sense port built in.

SMA-DDC-3

SMA-DDC-5-5 (includes pump)

The SMA-DDC-5-5 enables 5 location testing simultaneously or independently. The unit incorporates technology to visually and audibly signal when 1 CFM (28.3 LPM) is not attained at the point of sample. The system incorporates 5 programmable (memory) timers in a 304 stainless steel cabinet. The unit measures: 23"L x 28"W x 13-1/2"H. The unit is perfect for ensuring the integration of calibrated time and flow. The unit runs for a specified time period and then automatically turns off the vacuum to the SMA Atrium.

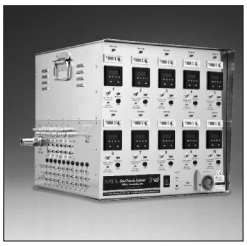
The timers run independently from each other while utilizing a common vacuum source. The SMA-DDC-5 unit includes a 1.5 HP pump. Includes isolation interface and vacuum sense port built in

SMA-DDC-5

SMA-DDC-10 (includes pump)

The SMA-DDC-10 enables 10 location testing simultaneously or independently. The unit incorporates technology to visually and audibly signal when 1 CFM (28.3 LPM) is not attained at the point of sample. The system incorporates 10 programmable (memory) timers and 10 solenoids in a 304 stainless steel cabinet. The unit measures: 23-1/4"L x 28"W x 22"H. The unit is perfect for ensuring the integration of calibrated time and flow. The unit runs for a specified time period and then automatically turns off the vacuum to the SMA Atrium.

The timers run independently from each other while utilizing a common vacuum source. The SMA-DDC-10 unit includes a 5.0 HP pump. Includes isolation interface and vacuum sense port built in.



SMA-DDC-10

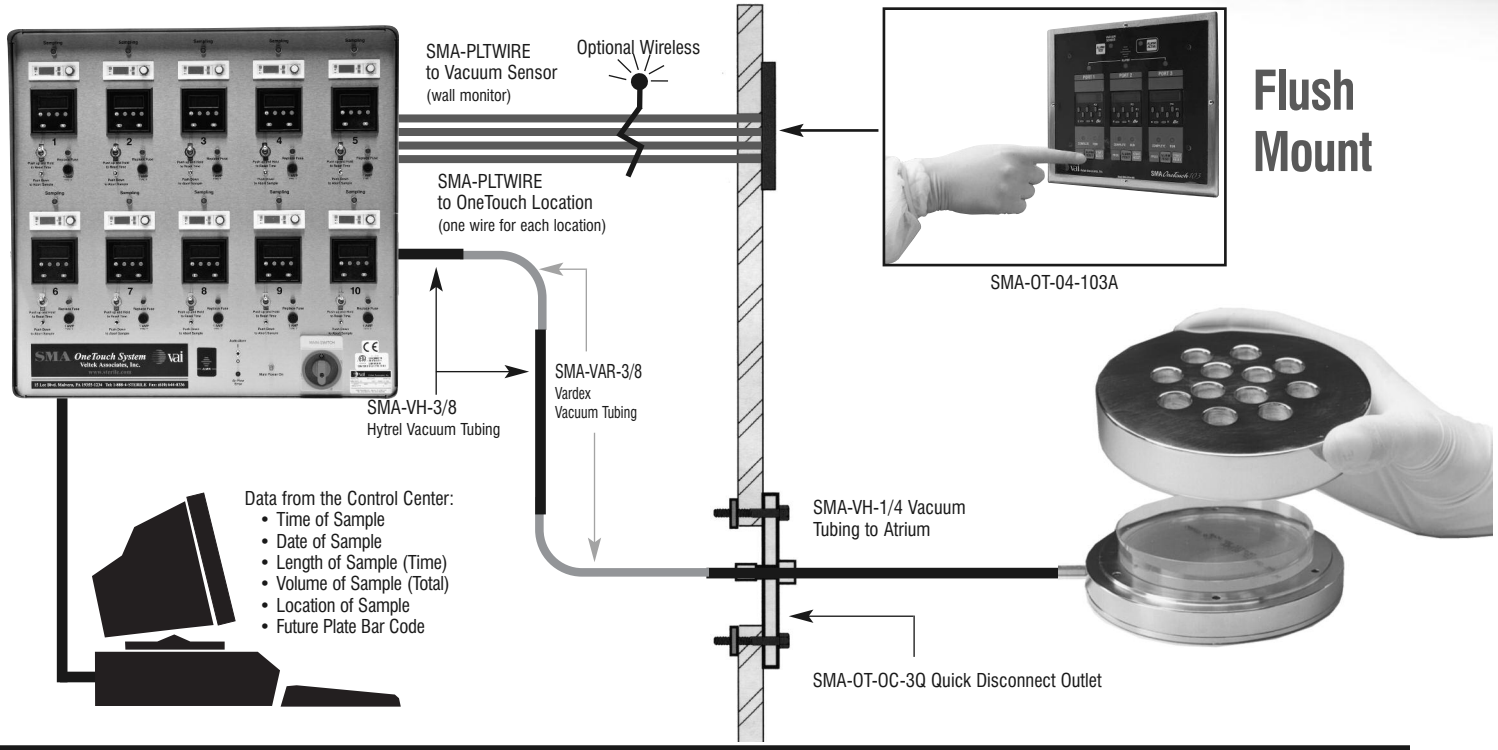
Order#	Atrium Description
SMA-DDC-1	1 Location DDC Control Center
SMA-DDC-2	2 Location DDC Control Center
SMA-DDC-3	3 Location DDC Control Center
SMA-DDC-5-5	5 Location DDC Control Center
SMA-DDC-10	10 Location DDC Control Center

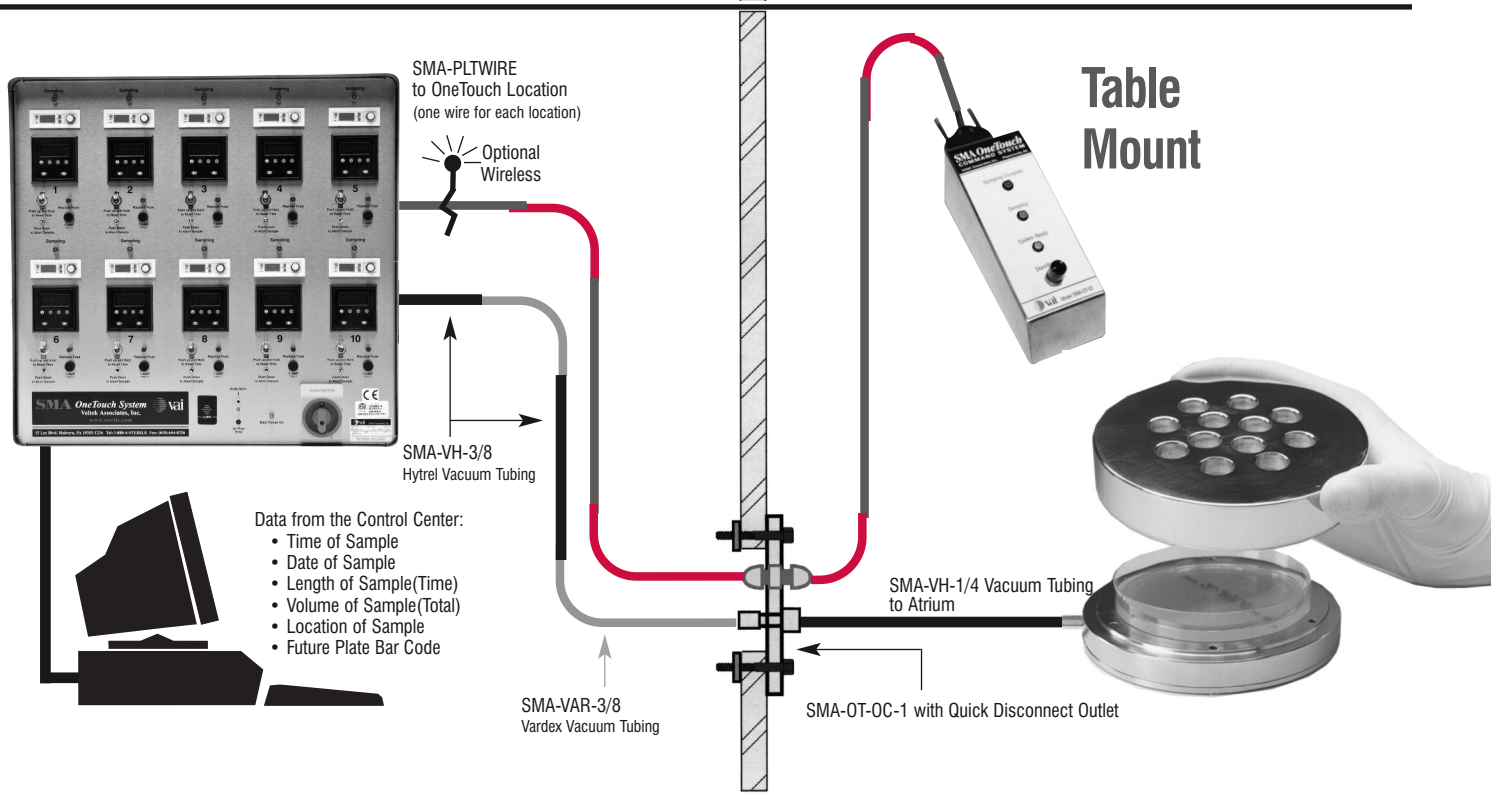
AVAILABLE TECHNICAL DATA SUPPLEMENTS *(UPON REQUEST)*

SMA-3001: SMA Atrium Validation Report
SMA User Manual: Specific to Unit (Please Contact Customer Service)

SMA ONETOUCH™ COMMAND SYSTEM

MICROBIAL AIR SAMPLING SYSTEM



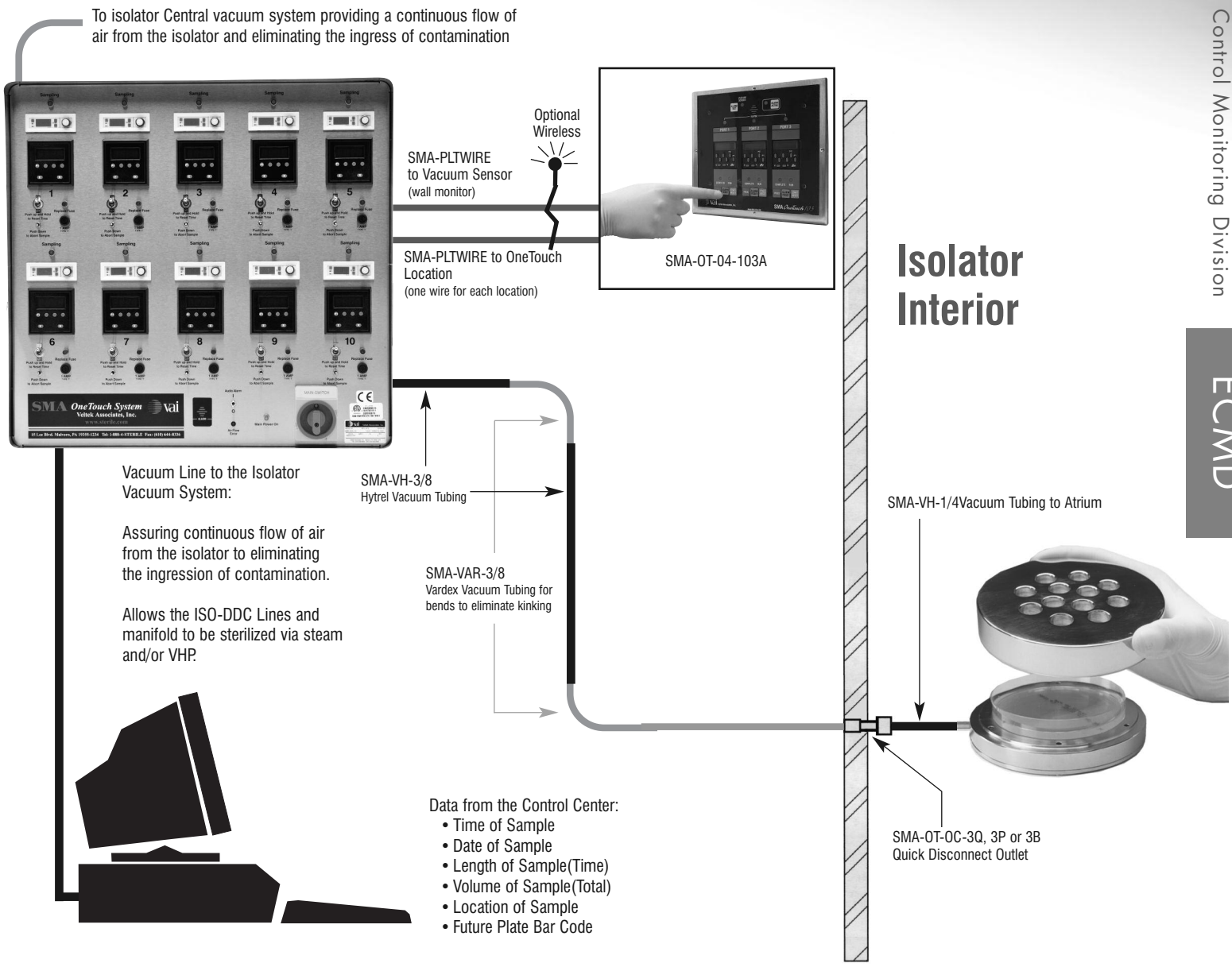


SMA ONETOUCH™ COMMAND SYSTEM

ISO-DDC

Microbial Air Sampling System – ISO-DDC

The SMA OneTouch System removes electronic devices from the area. Within the area is only a flush mount or table top start module and an SMA Atrium that is connected by 1/4" ID tubing to a stainless steel quick disconnect outlet cover on the wall.


To isolator Central vacuum system providing a continuous flow of air from the isolator and eliminating the ingress of contamination
Optional Wireless
SMA-PLTWIRE to Vacuum Sensor (wall monitor)
SMA-PLTWIRE to OneTouch Location (one wire for each location)
SMA-OT-04-103A
Isolator Interior
SMA OneTouch System
Veltek Associates, Inc.
Vacuum Line to the Isolator Vacuum System:
Assuring continuous flow of air from the isolator to eliminating the ingression of contamination.
Allows the ISO-DDC Lines and manifold to be sterilized via steam and/or VHP.
SMA-VH-3/8 Hytrel Vacuum Tubing
SMA-VAR-3/8 Vardex Vacuum Tubing for bends to eliminate kinking
SMA-VH-1/4Vacuum Tubing to Atrium
Data from the Control Center:
• Time of Sample
• Date of Sample
• Length of Sample(Time)
• Volume of Sample(Total)
• Location of Sample
• Future Plate Bar Code
SMA-OT-OC-3Q, 3P or 3B Quick Disconnect Outlet

SMA-OT-WL-105A/B

SMA WIRELESS CONTROL PANELS

The SMA Wireless Control Panels utilize FHSS (Frequency Hopping Spread Spectrum) Integrated radio with digital I/O's and signals making it ideal for harsh industrial environments.

Features:

- No FCC license required. Complies with Part 15 of FCC rules.
- Reliable communication in high EMI/RFI short or long range
- Suitable for installation in today's market as well as in the future – even as band use increases
- Eliminates conduits and cables
- Easy to use, no set-up or programming
- Controls and alarms for the individual ports are similar to the OT-04 control panels offered by VAI
- Start a Sample Cycle
- Abort a Sample Cycle
- Monitor a sample cycle in progress
- Audio alarm and visual lamp to notify User Sample Cycle is complete
- Audio alarm and visual lamp notifies User the Vacuum Preset is missing or not up to the required amount necessary for the Sample Cycle
- Audio alarm and visual lamp will enable when an individual port does not have the calibrated Air Flow required for sampling
- Timer in the panel will indicate time elapsed during Sample Cycle
- Sample Cycle duration can be programmed at the Controller or Panel Timer in the clean room
- 1 CFM/30LM error detection is available
- Can control one to ten ports

Order#	Description
SMA-OT-WL-101A/B*	Controls and monitors one port
SMA-OT-WL-102A/B*	Controls and monitors two ports
SMA-OT-WL-103A/B*	Controls and monitors three ports
SMA-OT-WL-105A/B*	Controls and monitors five ports

** A=Controller timer is Master, B=Timer in clean room is Master*

AVAILABLE TECHNICAL DATA SUPPLEMENTS *(UPON REQUEST)*

SMA Atrium Validation Report

SMA Control Center User Manual

SMA ONETOUCH™ COMMAND SYSTEM

OneTouch, Command System FEATURES:

- Removes all electronics and vacuum pumps from the aseptic area
- Requires only the OneTouch Remote Start Module and the SMA Atrium to be placed in the aseptic area; all other components are placed remotely
- Requires hard wiring of both the vacuum tubing and electronic plenum wiring for the OneTouch Point of Sample boxes
- Works with VAI's integrated computer software database that enables the data transfer of time of sample, sample date, length of sample, sample location, entry results and other features directly to your computer system
- Utilizes the SMA Atrium and one of the SMA Control Centers
- Adds to the Control Center features by using the OneTouch Point of Sample Box and the OneTouch Facility Control Module that remotely starts the sampling and eliminates the need to access the control center

OneTouch Point of Sample Box FEATURES:

- Begins sampling at the desired location of the SMA Atrium
- 4" long by 3" wide by 3" high
- Contains a system ready light, a sample completion light and a reset/operate button
- 316L #4 brush finished Stainless Steel completely sealed cabinet for disinfection purposes
- Signals back to the control center to begin sampling upon user prompting
- Set on surfaces or hard wired to a suitable mounting location on walls, in benches or within the isolator

OneTouch Facility Control Module FEATURES:

- Available in either modular or flush mount units
- Can be attached or flush mounted to desired wall locations and can remotely control sampling
- Can be used to view where in the facility sampling is being conducted

Additional FEATURES of the SMA-OT-04-x series: x may be 1,2,3 or 5

- Start Sample Cycle
- Abort Sample Cycle
- SMA-OT-04 10xA, Model A, the timer in the SMA Controller determines the length of time the sample cycle takes. Model SMA-OT-04-10xB has the same functionality as the SMA-OT-04-10xA with the timing duration controlled by the timer in the SMA-OT-04 unit. The selection of timing control is determined by the user and programmed at the factory. Hardware of the SMA-OT-04 models A or B is exactly the same.
- Vacuum Present error will emit an audio tone and a flashing error lamp when a vacuum is not present during a sample cycle.

Order#	OneTouch Component Description
SMA-OT-01-# of Locations	SMA OneTouch Modular Wall Control Box
SMA-OT-02	SMA OneTouch Point of Sample Box
SMA-OT-04-(1,2,3,5, or 10) A or B	SMA OneTouch Soft Touch Modules 1, 2, 3, 5, or 10 location
SMA-PLTWIRE	Plenum Wiring (ordered and priced per foot)
SMA-VH (1/4" or 3/8")	HYTREL Vacuum Tubing (ordered and priced per foot)
SMA-OT-OC-1	Single Stainless Outlet Cover w/ Fittings (Penetration Kit #1)
SMA-OT-OC-2	Dual Stainless Outlet Covers w/ Fittings (Wall Cavity Adapter Kit #2)
SMA-OT-OC-3	Vacuum Outlet Cover w/ Fittings (Kit #3Q, #3P or #3B)
SMA-ILR-01	Stainless Steel Rotameter for flush mount inline system w/out quick disconnect
SMA-ILR-02	Stainless Steel Rotameter for inline system w/quick disconnect
SMA-ILR-03	Stainless Steel Rotameter for flush mount inline system w/ quick disconnect

SMA-OT-02

SMA-OT-04-103

SMA-OT-04-102

SMA-OT-04-101

SMA-ILR-01

AVAILABLE TECHNICAL DATA SUPPLEMENTS *(UPON REQUEST)*

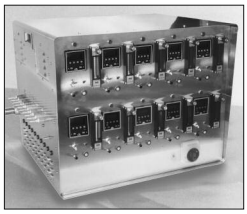
SMA Atrium Validation Report
SMA Control Center User Manual

SMA™ ISO-CC MICROBIAL AIR SAMPLER

SMA-CC-1i

SMA-CC-2i

SMA-CC-3i



SMA-CC-10i

The SMA-ISO feature is an adaptation done to the CC-1, CC-2, CC-3, CC-5, CC-5-5 and CC-10 Control Centers. The system design permits the highest level of confidence for sampling within the isolator and assures the non-aspiration or return of possible contaminants from the exterior environment to the isolator or barrier unit. All CC units can be adapted to operate in the ISO mode.

FEATURES:

- Integrates a 3 way solenoid between the rotameter and the SMA Atrium providing an automatic switching of air flow at the completion of sampling from the SMA Control Center to the isolator vacuum system
- The timer samples from the Atrium through the solenoid to the rotameter (where volume is gauged) and then proceeds to the control center vacuum pump
- Once sampling is complete the timer signals the solenoid to switch the air flow direction to the isolators central vacuum system
- Ensures the air is always being pulled from the isolator either in a sampling condition or a pause position directing the air flow to the isolator vacuum system
- Prevents the return of air into the isolator as flow is always being pulled outward
- Delivered ready to use with all the solenoids contained within the control center
- Allows continuous sampling to be conducted (up to 3 hours) on one agar plate

SPECIFICATIONS:

- Air Flow: 1 CFM
- Air Flow Accuracy: +/- 5%
- Maximum Temperature through Solenoids: 480°F
- Connections from Control Center to Atrium: 1/4" NPT
- Connection to Isolator Vacuum System: 1/4" NPT
- Voltage (CC): 115V AC or 220V AC
- Amps: 15A@115V AC or 10A@220V AC
- Calibration: Annual
- OneTouch Ready: Yes

Order#	ISO-CC Component Description
SMA-CC-1i	1 Location Control Center w/internal pump
SMA-CC-2i	2 Location Control Center w/external pump
SMA-CC-3i	3 Location Control Center w/external pump
SMA-CC-5i	5 Location Control Center w/external pump
SMA-CC-5-5i	5 Location Independent Control Center
SMA-CC-10i	10 Location Control Center w/external pump

AVAILABLE TECHNICAL DATA SUPPLEMENTS *(UPON REQUEST)*

SMA Atrium Validation Report
SMA Control Center User Manual

SMA™ MICROPORTABLE VIABLE AIR SAMPLER

The SMA MicroPortable is a rechargeable battery operated microbial air sampler for determining the level of existent viable contaminates in aseptic manufacturing operations.

FEATURES:

- Designed of 316L mirror-finished Stainless Steel
- Calibrated air flow
- Digital readout in cubic feet per minutes or liters
- 1 CFM (28.3LPM) and/or 5 CFM (141.5LPM) flow rates
- 2 CFM (56.6LPM) and/or 5 CFM (141.5LPM) flow rates
- Dual user preset sampling volumes
- Utilizes the SMA Atrium top that can be completely sterilized via steam, heat or ETO
- 9" high by 6" wide
- P191-6.8 pounds, P201-8.1 pounds
- 12 hour continuous operation without need for recharging
- 45 minute recharge time
- Uses a media fill level of 25mL (standard from most supplier)
- Can be located near filling processes or located remotely with the incorporation of the remote sampling probe that can be sterilized prior to use
- Designed to provide a tortuous path that air must travel, which assures a 95% capture efficiency of 0.5 micron particles and larger
- Integration of a multi-orifice top or remote sampling probe provides the ability to sample for over 120 cubic feet without agar desiccation
- Measures either CFM or Liters dependent upon model chosen
- Preset volumes can be programmed and stored into the memory of the counter
- Recall feature of programmed user preset volumes assures future sampling is done without the need to re-enter sample volumes

SMA-P300-03

SMA-P191-03

Order#	MicroPortable Description
SMAP-191-03-CFM or Liter	Lightweight portable, Delran top & bottom, lightweight stainless steel case & Softouch controls.
SMA-P201-03-CFM or Liter	Stainless steel unit & Softouch controls
SMA-P300-03	Hazard Safe, Softouch , Stainless steel; explosion proof UN1604
SMA-316-TO-25-1/4	Additional SMA Multi-Orifice Sampling Head
SMA-316-RE-PROBE	Additional SMA Remote Probe Sampling Head
SMA-191-BC-USA-01	Battery Recharger for P191, P201 and P300 (110 V AC)
SMA-191-BC-CE-02	Battery Recharger for P191, P201 and P300 (220 V AC)
SMA-504	Carrying Case
SMA-506	Disposable Dust Covers (10)

AVAILABLE TECHNICAL DATA SUPPLEMENTS *(UPON REQUEST)*

SMA MicroPortable Validation Report
SMA MicroPortable User Manual

"How To Purchase An SMA System"

Decide whether the SMA will be installed in a controlled environment or isolator.

CC-Control Centers provide calibrated flow regulation, timing and the ability to connect the VAI OneTouch, Command System Accessory.

ISO-CC-system design permits the highest level of confidence for sampling within the isolator and assures the non-aspiration or return of possible contaminants from the exterior environment to the isolator or barrier unit.

Attain a facility or area map.

Mark where sampling is intended to be done.

Choose a control center that meets the present and future needs of your operation.

Decide where to locate the control center.

Can be located 125 ft from the cc location insert chart for each CC distances can be increased from the above. Please contact VAI Tech. support for details

Decide which Atrium(s) fit your needs.

multi-orifice-test method most recognized by organizations for determining the level of existent microbial contaminants in their manufacturing operations

remote-designed with a single extension tube to fit into tight locations deemed critical to be tested for microbial contaminants

Choose which atrium fill level meets your needs.

32 ml
up to 3 hrs of sampling

25 ml
up to 1.5 hrs of sampling

18 ml
up to 50 minutes of sampling

Choose which Atrium top orifice size meets your needs.

32 ml
for up to 3 hrs of testing

25 ml
for up to 1 hr of testing

18 ml
for 50 minutes of sampling

Decide how you wish to start the unit and where the start modules will be located.

Flush Mount Wall

Module Table Mount

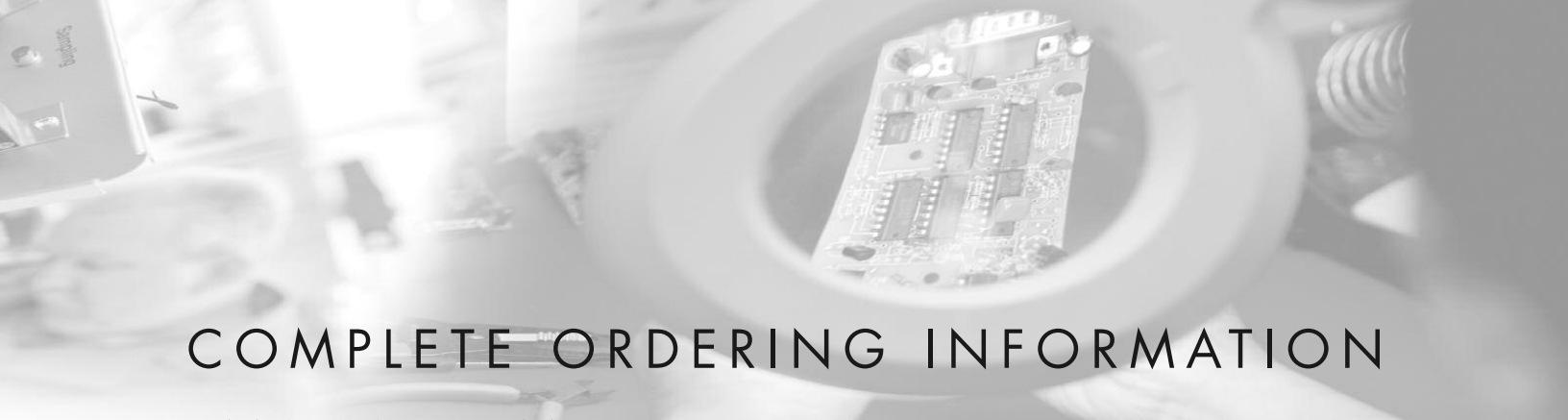
Control Center

Wireless Module

Decide if you will require an in-line rotameter or flow switch. If so, decide on the locations.

Measure distances and determine the amount of Hytrel/vardex tubing that will be needed. Do the same for the plenum wires for the OT boxes

Do you need VAI installation? (Recommended)



COMPLETE ORDERING INFORMATION

SMA™ ATRIUM-STAINLESS STEEL

Order#	Atrium Description
SMA-316-18-1/2	Complete Atrium 316 Stainless Steel SMA 18 ml. fill
SMA-316-T-18-1/2	316 Stainless Steel SMA 18 ml. fill 1/2" Top Only
SMA-316-18-1/4	Complete Atrium 316 Stainless Steel SMA 18 ml. fill
SMA-316-T-18-1/4	316 Stainless Steel SMA 18 ml. fill 1/4" Top Only
SMA-316-25-1/2	Complete Atrium 316 Stainless Steel SMA Unit 25 ml. fill 1/2'
SMA-316-T-25-1/2	316 Stainless Steel SMA 25 ml. fill 1/2" Top Only
SMA-316-25-1/4	Complete Atrium 316 Stainless Steel SMA Unit 25 ml. fill 1/4"
SMA-316-T-25-1/4	316 Stainless Steel SMA 25 ml. fill 1/4" Top Only "
SMA-316-32-1/2	Complete Atrium 316 Stainless Steel SMA Complete Unit 32 ml. fill 1/2'
SMA-316-T-32-1/2	316 Stainless Steel SMA 32 ml. fill 1/2" Top Only
SMA-316-32-1/4	Complete Atrium 316 Stainless Steel SMA Complete Unit 32 ml. fill 1/4'
SMA-316-T-32-1/4	316 Stainless Steel SMA 32 ml. fill 1/4" Top Only
SMA-316-B	Atrium Bottom 316 Stainless Steel SMA Bottom Bottom Only
SMA-316-B-ORIFICE	Orifice, 316 Stainless Steel, Pack of 10
SMA-316-B-SC	Atrium Bottom 316 SS SMA Bottom for SMA-WALLATR Bottom Only WALL
SMA-316-CA-18	Complete Atrium 316 Stainless Steel Compressed. Air 18 ml. fill
SMA-316-CA-25	Complete Atrium 316 Stainless Steel Compressed. Air Complete Unit 25 ml. fill
SMA-316-CA-32	Complete Atrium 316 Stainless Steel Compressed. Air Complete Unit 32 ml. fill
SMA-316-LO-15	Additional Limiting Orifice 15 inches VAC Additional Limiting Orifice 15 inches VAC Per each
SMA-316-LO-18	Additional Limiting Orifice 18 inches VAC Additional Limiting Orifice 18 inches VAC Per each
SMA-316-RE-18	Complete Atrium 316 Stainless Steel REMOTE SMA 18 ml. fill
SMA-316-RE-25	Complete Atrium 316 Stainless Steel REMOTE SMA Complete Unit 25 ml. fill
SMA-316-RE-32	Complete Atrium 316 Stainless Steel REMOTE SMA Complete Unit 32 ml. fill
SMA-316-RE-PROBE-18	Probe for MicroPortable (17' in length and 18 ml). Requires the Connective Top Arrangement SMA MicoPortable Probe 17' in length 18 ml.
SMA-316-RE-PROBE-25	Probe for MicroPortable (17' in length and 25 ml.) Requires the Connective Top Arrangement SMA MicoPortable Probe 17' in length 25 ml.
SMA-316-RE-TO-18	Atrium Top 316 Stainless Steel REMOTE Top 18 ml. fill Top Only
SMA-316-RE-TO-25	Atrium Top 316 Stainless Steel REMOTE 25 ml. fill Top Only
SMA-316-RE-TO-32	Atrium Top 316 Stainless Steel REMOTE 32 ml. fill Top Only
SMA-316-SCREW	Replacement Atrium Bottom Screws 100/bag Replacement Atrium Bottom Screws
SMA-D50	D50 Atrium Stainless Steel with 283 0.007" holes

SMA™ ATRIUM-ANODIZED ALUMINUM

Order#	Atrium Description
SMA-AA-18-1/2	Complete Atrium Anodized Aluminum SMA 18 ml. fill 1/2"
SMA-AA-18-1/4	Complete Atrium Anodized Aluminum SMA 18 ml. fill 1/4"
SMA-AA-25-1/2	Complete Atrium Anodized Aluminum SMA 25 ml. fill 1/2"
SMA-AA-25-1/4	Complete Atrium Anodized Aluminum SMA 25 ml. fill 1/4"
SMA-AA-32-1/2	Complete Atrium Anodized Aluminum SMA 32 ml. fill 1/2"
SMA-AA-32-1/4	Complete Atrium Anodized Aluminum SMA 32 ml. fill 1/4"
SMA-AA-B	Atrium Bottom Anodized Aluminum SMA
SMA-AA-T-18-1/2	Atrium Top Anodized Aluminum SMA 18 ml. fill 1/2"
SMA-AA-T-18-1/4	Atrium Top Anodized Aluminum SMA 18 ml. fill 1/4"
SMA-AA-T-25-1/2	Atrium Top Anodized Aluminum SMA 25 ml. fill 1/2"
SMA-AA-T-25-1/4	Atrium Top Anodized Aluminum SMA 25 ml. fill 1/4"
SMA-AA-T-32-1/2	Atrium Top Anodized Aluminum SMA 32 ml. fill 1/2"
SMA-AA-T-32-1/4	Atrium Top Anodized Aluminum SMA 32 ml. fill 1/4"
SMA-WALLATR	Bracket Only Requires SMA-316-B-SC Atrium Bracket Use with SC Bottom

SMA™ MICROPORTABLE VIABLE AIR SAMPLER

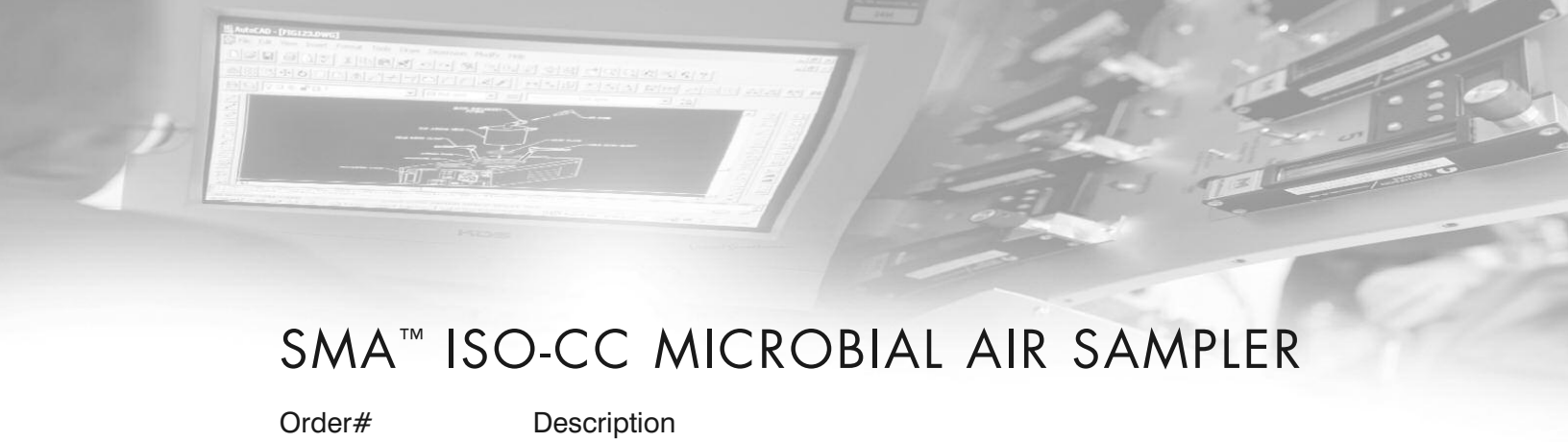
Order#	Description
SMA-504	Optional P100/200 Carrying Case Portable Option
SMA-506	Optional P100/200 Disposable Dust Covers (10) Portable Option
SMA-600	SMA Microportable Stand
SMA-601	Portable Stand (IV) Type w/Flay Top
SMA-603	P100-200-300 Calibration Flow Tube Assembly
SMA-P191 &-201-IQOQ	Written IQOQ Template for SMA P191 or P201 with VAI required information completed
SMA-P100-BC-220-CE	Optional P100/200 220V Additional Recharger Portable Option NA
SMA-P191-03	Lightweight portable, Delran Top and Bottom, Lightweight Stainless Casing and Soft Touch Controls
SMA-P191-BATTERY	P191 and P201 Additional Rechargeable Battery
SMA-P201-03	Stainless Steel Unit and Soft Touch Controls
SMA-P300-03	Hazardous Soft Touch Stainless Steel Explosion Proof UN 1604
SMA-PCAL-01	MicroPortable Air Flow Calibration Tube Assembly

SMA™ COMPRESSED AIR SAMPLER

Order#	Description
SMA-CA-502	Additional Braided Stainless Pressure Hose to fit CA200
SMA-CA200	Portable Battery Operated Compressed Air Sampler Compressed Air 115v or 220v
SMA-CA200-500	Portable Battery Operated Compressed Air Sampler Compressed Air Top
SMA-CA200-501	Portable Battery Operated Compressed Air Sampler Compressed Air 'O' Ring Gasket
SMA-CA200-IQOQ	Written IQOQ Template for SMA-CA200 with VAI required information completed

SMA™ MULTI LOCATION CONTROL CENTERS

Order#	Description
SMA-CC-001-F	Filter SMA CC-1
SMA-CC-002-F	Filter SMA CC-2 thru CC-5 Filter
SMA-CC-003-F-CE	Filters for the Leybold CE pump
SMA-CC-1	1 LOCATION CC Control Center Includes Pump
SMA-CC-1-IQOQ	Written IQOQ Template for SMA-CC-1with VAI required information completed
SMA-CC-1-PUMP	Additional Pump for the Gast Model 3032-101A-G609X
SMA-CC-10	10 Port Control Center with Pump. 208 VAC Includes 5 HP vacuum Pump
SMA-CC-10-IQOQ	Written IQOQ Template for SMA-CC-10 with VAI required information completed
SMA-CC-10-PUMP	Additional Pump for the SMA-CC-10
SMA-CC-10-SHIELD	10 Port Control Center Plexiglass shield
SMA-CC-10I	10 LOCATION ISO-CC Control Center Min 208 V AC Includes Pump Min 208 V AC
SMA-CC-2	2 LOCATION CC Control Center Includes Pump
SMA-CC-2-IQOQ	Written IQOQ Template for SMA-CC-2 with VAI required information completed
SMA-CC-2/3-PUMP	Additional Pump for the SMA-CC-2 & SMA-CC-3
SMA-CC-3	3 LOCATION CC Control Center Includes Pump
SMA-CC-3-IQOQ	Written IQOQ Template for SMA-CC-3 with VAI required information completed
SMA-CC-5	5 LOCATION CC Control Center Includes 1.5 HP Pump
SMA-CC-5-5	5-5 LOCATION CC Control Center Includes 1.5 HP Pump
SMA-CC-5-5-IQOQ	Written IQOQ Template for SMA-CC-5-5 with VAI required information completed
SMA-CC-5-5-SHIELD	5-5 Port Control Center Plexiglass shield
SMA-CC-5-5i	5-5 LOCATION ISO-CC Control Center Includes 1.5 HP Pump
SMA-CC-5-IQOQ	Written IQOQ Template for SMA-CC-5 with VAI required information completed
SMA-CC-5-ISO-IQOQ	Written IQOQ Template for SMA-CC-5 ISO-CC with VAI required information completed
SMA-CC-5-SHIELD	5 Port Control Center Plexiglass shield
SMA-CC-CART	Stainless Steel Cart for the SMA-CC-1 thru SMA-CC-5
SMA-CC-STAND	Rotameter Stand Rotameter For Matheson FM1000
SMA-VAR-3/8	Vardex Tubing 3/8' ID Tubing Sold Per Foot
SMA-VH-1/4	Hytrel Bevaline Tubing 1/4' ID Tubing Sold Per Foot
SMA-VH-3/8	Hytrel Bevaline Tubing 3/8' ID Tubing Sold Per Foot
SMA-VPS-01-10	Vaccum Pump Switcher for CC-10
SMA-VPS-02	Vacuum Pump Sensor for CC-1 thru CC-5 Vacuum Pump Sensor



SMA™ ISO-CC MICROBIAL AIR SAMPLER

Order#	Description
SMA-EX-1	1 LOCATION EX Control Center No Pump
SMA-EX-1-IQOQ	Written IQOQ Template for SMA-EX-1 with VAI required information completed
SMA-EX-2	2 LOCATION EX Control Center No Pump
SMA-EX-2-IQOQ	Written IQOQ Template for SMA-EX-2 with VAI required information completed
SMA-EX-3	3 LOCATION EX Control Center No Pump
SMA-EX-3-IQOQ	Written IQOQ Template for SMA-EX-3 with VAI required information completed
SMA-EX-5	5 LOCATION EX Control Center No Pump
SMA-EX-5-5	5-5 LOCATION CC Control Center without pump
SMA-EX-5-IQOQ	Written IQOQ Template for SMA-EX-5 with VAI required information completed
SMA-CC-1-ISO-IQOQ	Written IQOQ Template for SMA-CC-1 ISO CC with VAI required information completed
SMA-CC-10-ISO-IQOQ	Written IQOQ Template for SMA-CC-10 ISO CC with VAI required information completed
SMA-CC-1i	1 LOCATION ISO CC Control Center Includes Pump
SMA-CC-2-ISO-IQOQ	Written IQOQ Template for SMA-CC-2 ISO CC with VAI required information completed
SMA-CC-2i	2 LOCATION ISO CC Control Center Includes Pump
SMA-CC-3-ISO-IQOQ	Written IQOQ Template for SMA-CC-3 ISO CC with VAI required information completed
SMA-CC-3i	3 LOCATION ISO CC Control Center Includes Pump
SMA-CC-5-51-ISO-IQOQ	Written IQOQ Template for SMA-CC–5-5 ISO CC with VAI required information completed
SMA-CC-5-5i	5-5 LOCATION ISO CC Control Center Includes Pump
SMA-CC-5-ISO-IQOQ	Written IQOQ Template for SMA-CC–5 ISO CC with VAI required information completed
SMA-CC-5i	5 LOCATION ISO CC Control Center Includes Pump

SMA™ ONETOUCH CONTROL SYSTEM

SMA-OT-04-101	Flush Monitor 1 Location SoftTouch
SMA-OT-04-102	Flush Monitor 2 Location SoftTouch
SMA-OT-04-103	Flush Monitor 3 Location SoftTouch
SMA-OT-04-104	Flush Monitor 4 Location SoftTouch
SMA-OT-04-105	Flush Monitor 5 Location SoftTouch
SMA-OT-OC-1	OneTouch Outlet Kit 1 Wall Cavity OneTouch Option
SMA-OT-OC-2	OneTouch Outlet Kit 2 Wall to Wall OneTouch Option
SMA-OT-OC-3B	OneTouch Outlet Vac Barb OneTouch Option
SMA-OT-OC-3B-2	OneTouch Outlet Vac Dual Barb OneTouch Option
SMA-OT-OC-3P	OneTouch Outlet Vac Permanent OneTouch Option
SMA-OT-OC-3Q	OneTouch Outlet Vac Quick Disconnect OneTouch Option
SMA-OT-OC-3Q-2	OneTouch Outlet Vac Quick Disconnect OneTouch Option

SMA-OT-PW	Plenum Wire w/connectors Wire Sold Per Foot
SMA-OT-PW-KIT	Crimp Tool and 12 connectors for crimping end of wire
SMA-OT-TABLE	Predrilled Pump Mounts SMA-OT Table

SMA™ DDC MULTI LOCATION CONTROL CENTERS

Order#	Atrium Description
SMA-DDC-1	1 Location DDC Control Center
SMA-DDC-2	2 Location DDC Control Center
SMA-DDC-3	3 Location DDC Control Center
SMA-DDC-5-5	5 Location DDC Control Center
SMA-DDC-10	10 Location DDC Control Center

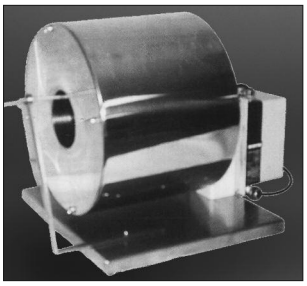
SMA DDC WIRELESS CONTROL PANELS

Order#	Description
SMA-OT-WL-101A/B*	Controls and monitors one port
SMA-OT-WL-102A/B*	Controls and monitors two ports
SMA-OT-WL-103A/B*	Controls and monitors three ports
SMA-OT-WL-105A/B*	Controls and monitors five ports

ROTAMETERS

Order#	Description
SMA-ROT-SS-1050	Stainless Steel ROTAMETER 0-150 SCFH 'J1050' Calibration unit
SMA-ROT-SS-120	Stainless Steel ROTAMETER 0-150 SCFH 'J514' NA
SMA-ROT-SS-60	Stainless Steel ROTAMETER 0-90 SCFH 'J860' NA
SMA-ROT-SS-60-MD	Stainless Steel ROTAMETER 0-90 Modified 'J860' for Site Flow Verification For Site Calibration
SMA-ROT-SS-70	Stainless Steel ROTAMETER 0-70 SLPM 'J511' NA

HELMKE-YEICH™ TUMBLE DRUM TESTER



HYEDR-100

The Helmke-Yeich Tumble Drum Tester is used for disseminating the particulate and shedding features of products deemed suitable for the clean room environment. The H-Y Tumble Drum Tester is used by a majority of clean room laundries, pharmaceutical, biotechnology, semiconductor and electronic organizations worldwide. The unit is recommended by the Institute of Environmental Sciences (IES-RP3) for testing garments, wipers, gloves, and other clean room ready products.

Features of the H-Y Tumble Drum Tester:

- The H-Y Drum Is Mirror finished stainless steel both inside and outside
- The H-Y Tumble Drum has removable baffles for easy cleaning
- A Sealed Direct Drive Motor Assembly assures no particulate generation from the motor and assembly that may effect testing
- Variable Speed Control is standard with the unit with an optional digital speed readout
- The Stainless Steel Particle Counter introductory tube used to measure air in the drum does not affect the rotation and natural tumbling of product tested
- The H-Y base and risers are made of mirror finished stainless steel
- The unit is sized at: Drum: 17 inch L x 13 inch D Base: 18 inch L x 18 inch W Shipment Crate: 24 inch H x 18 inch W x 18 inch L

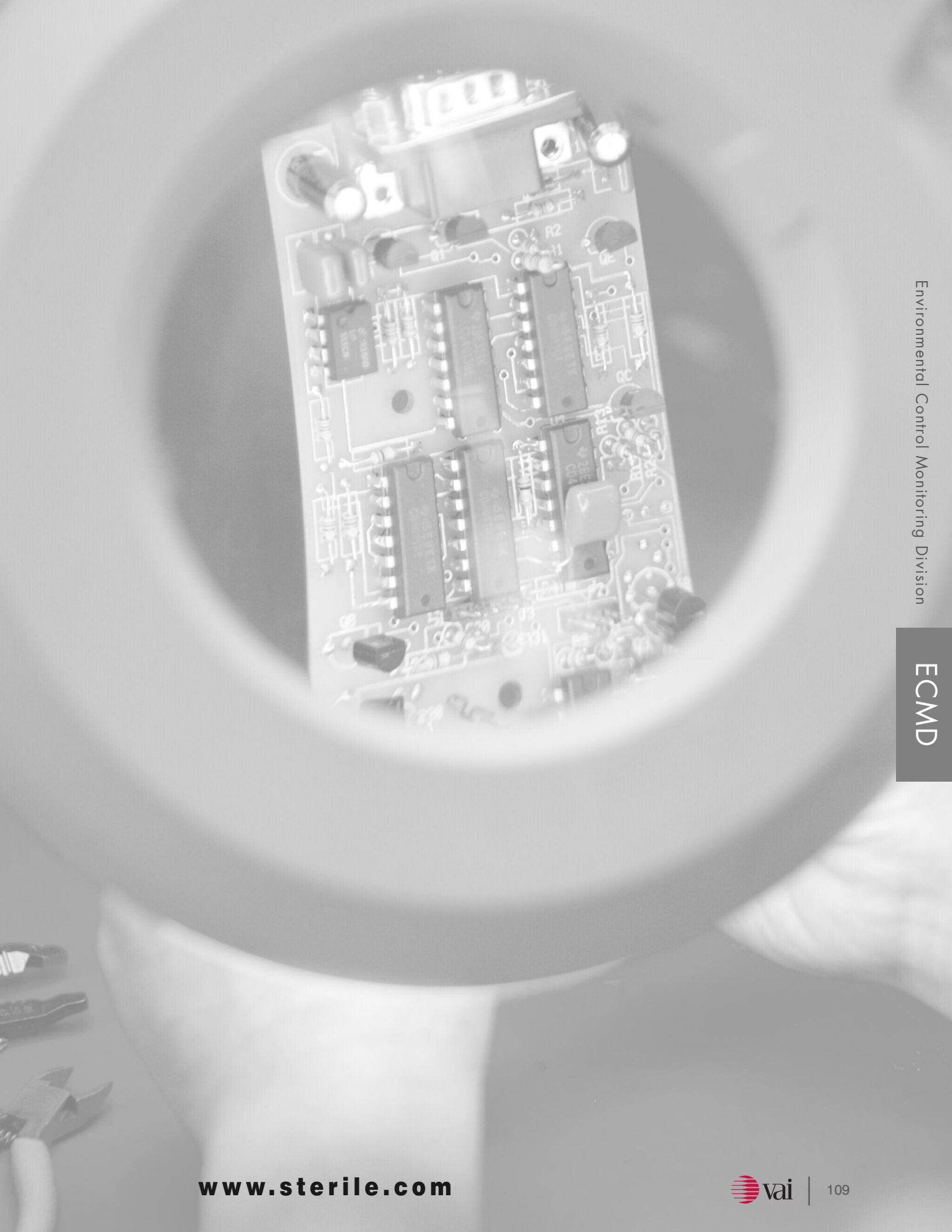
Testing with the H-Y Tumble Drum Tester

The entire unit is first purged in a laminar flow hood or controlled area. The unit incorporates a stainless steel particle counter connection on the exterior of the drum. This connection, with 3/8 inch ID PVC tubing, to the particle counter enables the operator to sample air inside the drum and evaluate the baseline contamination levels prior to beginning testing. As the Drum spins in the laminar flow area, background counts will begin to drop. In approximately 5 minutes of initial purging, background counts will reach a suitable level to begin testing. These background levels are recorded prior to each test and the product to be tested is introduced and tested for a one (1) minute period. Five (5) additional readings for each product are recorded and averaged. The results will depict the level of contamination that the product will emit to the clean room environment per minute. Acceptable levels for varying clean room conditions are described in the IES RP3 monograph.

Order#	H-Y Tumble Drum Description
HYEDR-100	H-Y Tumble Drum w/dial control, variable speed
HYE-101	H-Y Drum Only
HYE-102	Replacement H-Y Dial Speed Controller
HYE-104	H-Y Drive Shaft and Plate attachment for Drum

AVAILABLE TECHNICAL DATA SUPPLEMENTS *(UPON REQUEST)*

H-Y Tumble Drum Tester Manual
Technical Data File



Disposable Product Manufacturing Division

DPMD

1-888-4-STERILE 1-888-478-3745

WELCOME TO DPMD

DISPOSABLE PRODUCTS MANUFACTURING DIVISION

DPMD or VAI's Disposable Products Manufacturing Division has addressed the needs of the Pharmaceutical, Biotechnology, Semi-Conductor, and Electronics industries by designing a complete range of sterile and non-sterile disposable garments, textile products, and UCAN packaging which are manufactured under the CMP Clean Manufacturing System. The CMP Clean Manufacturing System incorporates Cutting, Manufacturing, and Packaging (CMP) all products within a clean room facility from beginning to end. This manufacturing style assures that all products are handled in the cleanest fashion available for this type of operation. Subsequently, VAI products have tested for over 28 years as one of the lowest particulate inherent products in the marketplace.

VAI's DPMD manufactures products which are designed for varying applications and clean room settings. All DPMD products are manufactured in lot sequence, completely traceable and are tested for cleanliness by lot using our H-Y Tumble Drum Tester. This is in accordance with the Institute of Environmental Sciences Helmke Tumble™ Drum, IES-RP3.

DPMD incorporates internally designed material blends which have excellent barrier filtration capabilities, cleanliness and are designed for user comfort. DPMD also manufactures products with alternate material blends if requested.

DPMD has responded and met the demands of professionals in the industry for over 28 years. Our custom manufacturing capabilities assure that the client will be able to request changes to our standard products and have custom items manufactured specifically for their needs.

DPMD has its strongest position in the pharmaceutical and biotechnology industries. All sterile DPMD products are gamma irradiated. All systems are validated and appropriate documentation for products are assumed mandatory with delivery of the product. Our custom packaging provides packaging ranging from individual to bulk.

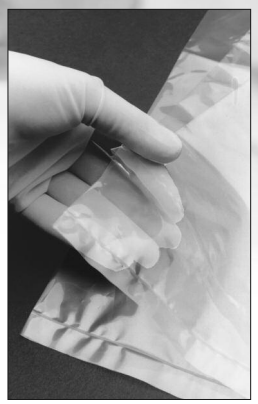
DPMD-DISPOSABLE PRODUCTS MANUFACTURING DIVISION

113 UCAN® Packaging Nylon
115 Material Blends
116 Easy2Gown® System
117 Garment Styles
119 Face Mask Styles
119 Sweatless Headbands
120 Garment Ordering Information

UCAN™ PACKAGING NYLON

STERILIZATION AND CLEAN PACKAGING MATERIAL

UCAN FEATURES:



- Packaging material for sterilizing components
- Packaging for clean products
- Nylon based material
- Incorporates the lowest particulates levels in the marketplace
- Available in bags or rolls
- Manufactured through a blowing process that utilizes Class 100, 0.2 micron feed air
- Roll material is blown and placed directly onto the roll without the possible intervention of contaminants to the inside of the material
- All bags have a single seal at the bottom
- Can withstand temperatures in excess of 475°C
- Can be easily sealed using any high impact heat sealer
- Tested in accordance with ASTM standard for cleanliness
- Completely validated for steam penetration in confirming efficacy during sterilization processes

UCAN STERILIZATION USES:

- Component parts
- Porous and non-porous items
- Bowls
- Aseptic connections
- Sanitary fittings
- Sampling tubes
- Stainless and aluminum parts
- HDPE
- Other items requiring a clean bag and seal system prior to entry into a Class 100 area

Order#	Description	Quan/cs.
UC-2	UCAN 500 foot roll 2" Wide Non-Sterile	12
UC-3	UCAN 500 foot roll 3" Wide Non-Sterile	12
UC-4	UCAN 500 foot roll 4" Wide Non-Sterile	12
UC-5	UCAN 500 foot roll 5" Wide Non-Sterile	12
UC-6	UCAN 500 foot roll 6" Wide Non-Sterile	6
UC-8	UCAN 500 foot roll 8" Wide Non-Sterile	6
UC-10	UCAN 500 foot roll 10" Wide Non-Sterile	6
UC-12	UCAN 500 foot roll 12" Wide Non-Sterile	6
UC-15	UCAN 500 foot roll 15" Wide Non-Sterile	4
UC-18	UCAN 500 foot roll 18" Wide Non-Sterile	4
UC-20	UCAN 500 foot roll 20" Wide Non-Sterile	4
UC-24	UCAN 500 foot roll 24" Wide Non-Sterile	4
UCAN-2x6	UCAN Clean Nylon Bags 2" x 6" Non-Sterile	3,000
UCAN-2x6-S	UCAN Clean Nylon Bags 2" x 6" Sterile	3,000
UCAN-3x9	UCAN Clean Nylon Bags 3" x 9" Non-Sterile	3,000
UCAN-3x9-S	UCAN Clean Nylon Bags 3" x 9" Sterile	3,000

UCAN™ PACKAGING NYLON cont'd

Order#	Description	Quan/cs.
UCAN-4x9	UCAN Clean Nylon Bags 4" x 9" Non-Sterile	3,000
UCAN-4x9-S	UCAN Clean Nylon Bags 4" x 9" Sterile	3,000
UCAN-5x10	UCAN Clean Nylon Bags 5" x 10" Non-Sterile	3,000
UCAN-5x10-S	UCAN Clean Nylon Bags 5" x 10" Sterile	3,000
UCAN-6x12	UCAN Clean Nylon Bags 6" x 12" Non-Sterile	3,000
UCAN-6x12-S	UCAN Clean Nylon Bags 6" x 12" Sterile	3,000
UCAN-8x6	UCAN Clean Nylon Bags 8" x 6" Non-Sterile	1,000
UCAN-8x6-S	UCAN Clean Nylon Bags 8" x 6" Sterile	3,000
UCAN-10x20	UCAN Clean Nylon Bags 10" x 20" Non-Sterile	1,000
UCAN-10x20-S	UCAN Clean Nylon Bags 10" x 20" Sterile	1,000
UCAN-12x18	UCAN Clean Nylon Bags 12" x 18" Non-Sterile	1,000
UCAN-12x18-S	UCAN Clean Nylon Bags 12" x 18" Sterile	1,000
UCAN-15x20	UCAN Clean Nylon Bags 15" x 20" Non-Sterile	500
UCAN-15x20-S	UCAN Clean Nylon Bags 15" x 20" Sterile	500
UCAN-18x24	UCAN Clean Nylon Bags 18" x 24" Non-Sterile	1,000
UCAN-18x24-S	UCAN Clean Nylon Bags 18" x 24" Sterile	1,000
UCAN-20x30	UCAN Clean Nylon Bags 20" x 30" Non-Sterile	500
UCAN-20x30-S	UCAN Clean Nylon Bags 20" x 30" Sterile	500

*Sterile UCAN available upon request

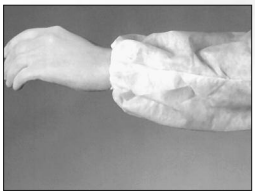
AVAILABLE TECHNICAL DATA SUPPLEMENTS *(UPON REQUEST)*

Product Validation
UCAN Technical Data File

CMP™ CLEAN GARMENT MATERIAL BLENDS

The Disposable Products Manufacturing Division (DPMD) has been in existence and serving the pharmaceutical, biotechnology, semiconductor and electronics industries for over 25 years. All products are Cut, Manufactured and Packaged (CMP) in a clean room from beginning to end. DPMD manufactures a complete line of disposable protective garments that includes various styles.

The following material blends are utilized in the manufacturing of our products:



PF-2 Material Blend:

- Manufactured into face masks
- Soft, comfortable and breathable material
- Rayon material coated with VAI's patented latex binder
- Very low particulate and shedding features
- Filtration or retentive properties of the material measured at 0.45 microns is 99%
- Designed for pharmaceutical and biotechnology operations

1700 CleanBlend Material Blend:

- Manufactured into coveralls, lab coats, hoods, sleeve and mid-calf boots
- Soft and comfortable material
- Single stitch sewn with bound edges
- Heat-bonded polypropylene that is laminated with VAI's patented laminate binding material
- Designed for use in either Class 100 sterile or non-sterile areas and as a personal protection garment
- Very low particulate and shedding features
- Filtration and efficiency or barrier retention of the material measured at 0.45 microns is 100%
- Most widely used as a personal protection gown since it has excellent chemical resistance to a variety of agents

AVAILABLE TECHNICAL DATA SUPPLEMENTS *(UPON REQUEST)*

Garment Product Validation
Technical Data File

See pages 120 to 123 for ordering information.

EASY 2 GOWN SYSTEM

EASY2GOWN® SYSTEM

The Easy2Gown System incorporates a patented fold that was developed to minimize contact between the operator and the outside of the gown. By presenting the inside of the gown, the sterile outside is protected from the transfer of contamination during the gowning process. In addition to the innovative fold, the gown is manufactured from a soft comfortable material blend that has excellent barrier capabilities. Easy2Gown garments are an excellent choice for use in ISO 5, A/B (Class 100) areas as well as other controlled areas such as ISO 7, Grade C (Class 10,000) and ISO 8 Grade D (Class 100,000). Easy2Gown is ideal for use in the Biopharmaceutical and Electronic Industry, sterility test labs and non aseptic manufacturing.

Features and Benefits of Easy2Gown:

- Unique fold that protects the outside of the gown from user contamination during the gowning process
- Reduced gowning time required as the fold not only protects the gown, but enables easier less cumbersome gowning technique
- Reduced training time since the gown can only be donned in one sequence
- Greater success in gowning qualifications and re-qualifications
- Hands-on training available upon request
- Soft, comfortable material with a patented laminate that features the lowest particulate and shedding in the industry (per HY Tumble Drum Testing)
- Bound, double stitched seams assure the integrity of the barrier
- Piping reduces shifting and gives more form to the gowning making it less cumbersome and more comfortable to wear
- Sewn thumb loops prevent the sleeves from shifting up exposing skin
- Elastic at the wrists and ankles
- Available in sizes from Small to 5XL with size labels color coded on the outside of bags for quick recognition when stacked
- Offered in double-bagged, sterile packaging validated to 10^{-6} SAL for sterility
- Five year validated closed package expiration dating
- Each sterilized product is delivered with the lot specific Certificate of Irradiation and Certificate of Sterility
- Delivered in a case liner to expedite transfer to gowning areas

See page 123 to 124 for ordering information.

CMP™ GARMENT STYLES

The CMP Garments provide excellent barrier capabilities. The CMP Garment products are soft, cool and comfortable and reduce user discomfort. Available in many styles presented below, the CMP Garments are the choice of many pharmaceutical, biotechnology, semiconductor and electronic organizations in the industry.

Choosing a Packaging Option:

All VAI CMP Garments are available both sterile and non-sterile. All sterile products are packaged individually per garment, and are lot coded during manufacturing and sterilization (sterile documentation accompanies all orders). Please contact VAI Customer Service for packaging options. Ordering Instructions are presented on the last page of the DPMD section.

See pages 120 to 124 for ordering information.

Bouffant Hat

Under Chin Hood

Non-Skid Sole

Shoecover Non-Skid

Midcalf Boot

Lab Coat

Complete Coverage

PF FACE MASK™ STYLES

PF FACE MASK FEATURES:

- Excellent barrier capabilities
- Soft, cool and comfortable
- Eliminate goggle fogging
- Available in many styles

MATERIAL BLEND:

- PF-2 is used in pharmaceutical and biotechnology operations as a sterile mask

PACKAGING OPTIONS:

- Available sterile and non-sterile
- All sterile products are packaged individually per mask
- All sterile products are lot coded during manufacturing and sterilization
- Sterile products all come with complete sterilization documentation

AVAILABLE TECHNICAL DATA SUPPLEMENTS

(UPON REQUEST)

Face Mask Product Validation
Technical Data File

Surgical Mask
with elastic

Surgical Mask
with ties

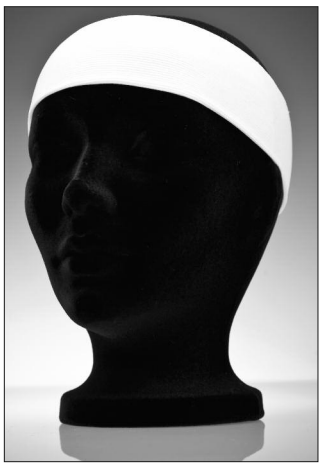
Surgical Mask Long
with ties

SWEATLESS HEADBANDS

HEADBAND FEATURES:

- Natural 100% Nylon Tubular Fabric
- Soft, cool and comfortable
- Excellent absorption capabilities
- Available in three sizes
- Fabric has slight stretch for a secure fit

See page 123 for ordering information.



SL-01-L

GARMENT ORDERING

DISPOSABLE PACKAGING & STERILIZATION

All VAI disposable products are available in packaging from bulk case to individual packs, in both sterile and non-sterile form. Sterilization is done via gamma radiation and complete documentation is provided upon delivery.

VAI Shoe Coverings

Order #	Description	Size	STERILE/ NON-STERILE	Q/CS
150-SC-NS-1502	LOW CUT SHOECOVERS WITH NON-SKID SOLE	S/M	NS	125 PAIR
150-SC-NS-1503	LOW CUT SHOECOVERS WITH NON-SKID SOLE	L/XL	NS	125 PAIR
150-SC-NS-1504	LOW CUT SHOECOVERS WITH NON-SKID SOLE	XXL/XXXL	NS	125 PAIR
150MC-1505	STANDARD BOOTS	S/M	NS	100 PAIR
150MC-1506	STANDARD BOOTS	L/XL	NS	100 PAIR
1700MC-NS-S-1780	MID-CALF NON-SKID BOOT	M	NS	50 PAIR
1700MC-NS-1781	MID-CALF NON-SKID BOOT	L/XL	NS	50 PAIR
1700MC-NS-1782	MID-CALF NON-SKID BOOT	2XL/3XL	NS	50 PAIR
1700MC-NS-S-1789	MID-CALF NON-SKID BOOT	S/M	S	50 PAIR
1700MC-NS-S-1790	MID-CALF NON-SKID BOOT	L/XLK	S	50 PAIR
1700MC-NS-S-1791	MID-CALF NON-SKID BOOT	XXL/XXXL	S	50 PAIR
1700P-MC-NS-17032	EASY2GOWN 1700 MITCOOL MID-CALF NON-SKID BOOT	S/M	NS	50 PAIR
1700P-MC-NS-17033	EASY2GOWN 1700 MITCOOL MID-CALF NON-SKID BOOT	L/XL	NS	50 PAIR
1700P-MC-NS-17034	EASY2GOWN 1700 MITCOOL MID-CALF NON-SKID BOOT	2XL/3XL	NS	50 PAIR
1700P-MC-NS-S-17018	EASY2GOWN 1700 MITCOOL MID-CALF NON-SKID BOOT	S/M	S	50 PAIR
1700P-MC-NS-S-17019	EASY2GOWN 1700 MITCOOL MID-CALF NON-SKID BOOT	L/XL	S	50 PAIR
1700P-MC-NS-S-17020	EASY2GOWN 1700 MITCOOL MID-CALF NON-SKID BOOT	XXL/XXXL	S	50 PAIR
150-SC-1501	LOW CUT SHOECOVERS WITH NON-SKID SOLE	ONE SIZE	NS	150 PAIR
150-SC-NS-1512	LOW CUT SHOECOVERS WITH NON-SKID SOLE	S/M	NS	125 PAIR
150MC-1507	STANDARD BOOTS	XXL/XXXL	NS	100 PAIR
150MC-NS-1508	NON-SKID SOLE BOOTS	S/M	NS	100 PAIR
150MC-NS-1509	NON-SKID SOLE BOOTS	L/XL	NS	100 PAIR
150MC-NS-1510	NON-SKID SOLE BOOTS	XXL/XXXL	NS	100 PAIR

GARMENT ORDERING cont'd

VAI Coveralls and Labcoats

Order #	Description	Size	STERILE/ NON-STERILE	Q/CS
1700-E-1745	COVERALL WITH ELASTIC WRIST AND NECK MITCOOL FABRIC	S	NS	25
1700-E-1746	COVERALL WITH ELASTIC WRIST AND NECK MITCOOL FABRIC	M	NS	25
1700-E-1747	COVERALL WITH ELASTIC WRIST AND NECK MITCOOL FABRIC	L	NS	25
1700-E-1748	COVERALL WITH ELASTIC WRIST AND NECK MITCOOL FABRIC	XL	NS	25
1700-E-1749	COVERALL WITH ELASTIC WRIST AND NECK MITCOOL FABRIC	XXL	NS	25
1700-E-1750	COVERALL WITH ELASTIC WRIST AND NECK MITCOOL FABRIC	XXXL	NS	25
1700-E-1751	COVERALL WITH ELASTIC WRIST AND NECK MITCOOL FABRIC	4XL	NS	25
1700-E-1756	COVERALL WITH ELASTIC WRIST AND NECK MITCOOL FABRIC	5XL	NS	25
1700-E-1764	COVERALL WITH ELASTIC WRIST AND NECK MITCOOL FABRIC	6XL	NS	25
1700-E-S-1726	COVERALL WITH ELASTIC WRIST AND ANKLE MITCOOL FABRIC	S	S	25
1700-E-S-1727	COVERALL WITH ELASTIC WRIST AND ANKLE MITCOOL FABRIC	M	S	25
1700-E-S-1728	COVERALL WITH ELASTIC WRIST AND ANKLE MITCOOL FABRIC	L	S	25
1700-E-S-1729	COVERALL WITH ELASTIC WRIST AND ANKLE MITCOOL FABRIC	XL	S	25
1700-E-S-1730	COVERALL WITH ELASTIC WRIST AND ANKLE MITCOOL FABRIC	XXL	S	25
1700-E-S-1731	COVERALL WITH ELASTIC WRIST AND ANKLE MITCOOL FABRIC	XXXL	S	25
1700-EHB-1752	COVERALL WITH ELASTIC WRIST, ARMS AND ATTACHED HOOD AND BOOTS	L	NS	25
1700-E-S-1765	COVERALL WITH ELASTIC WRIST AND ANKLE MITCOOL FABRIC	5XL	S	25
1700-E-S-1766	COVERALL WITH ELASTIC WRIST AND ANKLE MITCOOL FABRIC	4XL	S	25
1700-EHB-1753	COVERALL WITH ELASTIC WRIST, ARMS AND ATTACHED HOOD AND BOOTS	XL	NS	25
1700-EHB-1754	COVERALL WITH ELASTIC WRIST, ARMS AND ATTACHED HOOD AND BOOTS	4XL	NS	25
1700-EHB-1755	COVERALL WITH ELASTIC WRIST, ARMS AND ATTACHED HOOD AND BOOTS	3XL	NS	25
1700-EHB-1756	COVERALL WITH ELASTIC WRIST, ARMS AND ATTACHED HOOD AND BOOTS	2XL	NS	25
1700-EHB-1761	COVERALL WITH ELASTIC WRIST, ARMS AND ATTACHED HOOD AND BOOTS	5XL	NS	25
1700-EHB-1762	COVERALL WITH ELASTIC WRIST, ARMS AND ATTACHED HOOD AND BOOTS	M	NS	25
1700-EHB-1763	COVERALL WITH ELASTIC WRIST, ARMS AND ATTACHED HOOD AND BOOTS	6XL	NS	25
1700-EHB-S-1735	COVERALL WITH ELASTIC WRIST, ARMS AND ATTACHED HOOD AND BOOTS	S	S	25
1700-EHB-S-1736	COVERALL WITH ELASTIC WRIST, ARMS AND ATTACHED HOOD AND BOOTS	M	S	25
1700-EHB-S-1737	COVERALL WITH ELASTIC WRIST, ARMS AND ATTACHED HOOD AND BOOTS	L	S	25
1700-EHB-S-1738	COVERALL WITH ELASTIC WRIST, ARMS AND ATTACHED HOOD AND BOOTS	XL	S	25
1700-EHB-S-1739	COVERALL WITH ELASTIC WRIST, ARMS AND ATTACHED HOOD AND BOOTS	XXL	S	25
1700-EHB-S-1740	COVERALL WITH ELASTIC WRIST, ARMS AND ATTACHED HOOD AND BOOTS	3XL	S	25
1700-EHB-S-1793	COVERALL WITH ELASTIC WRIST, ARMS AND ATTACHED HOOD AND BOOTS	4XL	NS	25

GARMENT ORDERING cont'd

VAI Coveralls and Labcoats, continued

Order #	Description	Size	STERILE/ NON-STERILE	Q/CS
1700-LC-1741	1700 MITCOOL LABCOAT	M	NS	25
1700-LC-1742	1700 MITCOOL LABCOAT	L	NS	25
1700-LC-1743	1700 MITCOOL LABCOAT	XL	NS	25
1700-LC-1744	1700 MITCOOL LABCOAT	XXL	NS	25
1700-LC-1795	1700 MITCOOL LABCOAT	S	NS	25
1700-LC-1796	1700 MITCOOL LABCOAT	M	NS	25
1700-LC-1797	1700 MITCOOL LABCOAT	3XL	NS	25
1700-LC-S-1721	1700 MITCOOL LABCOAT	M	S	25
1700-LC-S-1722	1700 MITCOOL LABCOAT	L	S	25
1700-LC-S-1723	1700 MITCOOL LABCOAT	XL	S	25
1700-LC-S-1724	1700 MITCOOL LABCOAT	XXL	S	25
1700-LC-S-1798	1700 MITCOOL LABCOAT	S	S	25
1700-LC-S-1799	1700 MITCOOL LABCOAT	3XL	S	25

GARMENT ORDERING cont'd

Sweatless Head Bands

Order #	Description	Size	STERILE/ NON-STERILE	Q/CS
SL-01-M	SWEATLESS HEAD BAND	M	NS	200
SL-01-L	SWEATLESS HEAD BAND	L	NS	200
SL-01-M	SWEATLESS HEAD BAND	M	NS	200

Easy2Gown®

Order #	Description	Size	STERILE/ NON-STERILE	Q/CS
1700P-H-EO-17030	EASY2GOWN 1700 MITCOOL HOOD EYE-OPENING	S/M	NS	100
1700P-H-EO-S-17016	EASY2GOWN 1700 MITCOOL HOOD EYE OPENING	S/M	S	100
1700P-H-UC-17031	EASY2GOWN 1700 MITCOOL HOOD UNDERCHIN COVERALL	OS	NS	100
1700P-H-UC-S-17017	EASY2GOWN 1700 MITCOOL HOOD UNDERCHIN COVERALL	OS	S	100
1700P-EHB-S-17008	EASY2GOWN MITCOOL ELASTIC HOOD AND BOOTS COVERALL	S	S	25
1700P-EHB-S-17009	EASY2GOWN MITCOOL ELASTIC HOOD AND BOOTS COVERALL	M	S	25
1700P-EHB-S-17010	EASY2GOWN MITCOOL ELASTIC HOOD AND BOOTS COVERALL	L	S	25
1700P-EHB-S-17011	EASY2GOWN MITCOOL ELASTIC HOOD AND BOOTS COVERALL	XL	S	25
1700P-EHB-S-17012	EASY2GOWN MITCOOL ELASTIC HOOD AND BOOTS COVERALL	XXL	S	25
1700P-EHB-S-17013	EASY2GOWN MITCOOL ELASTIC HOOD AND BOOTS COVERALL	3XL	S	25
1700P-EHB-S-17014	EASY2GOWN MITCOOL ELASTIC HOOD AND BOOTS COVERALL	4XL	S	25
1700P-EHB-S-17015	EASY2GOWN MITCOOL ELASTIC HOOD AND BOOTS COVERALL	5XL	S	25
1700P-E-17021	EASY2GOWN MITCOOL ELASTIC WRIST AND ANKLE COVERALL	S	NS	25
1700P-E-17022	EASY2GOWN MITCOOL ELASTIC WRIST AND ANKLE COVERALL	M	NS	25
1700P-E-17023	EASY2GOWN MITCOOL ELASTIC WRIST AND ANKLE COVERALL	S	NS	25
1700P-E-17024	EASY2GOWN MITCOOL ELASTIC WRIST AND ANKLE COVERALL	XL	NS	25
1700P-E-17026	EASY2GOWN MITCOOL ELASTIC WRIST AND ANKLE COVERALL	2XL	NS	25
1700P-E-17027	EASY2GOWN MITCOOL ELASTIC WRIST AND ANKLE COVERALL	3XL	NS	25

GARMENT ORDERING cont'd

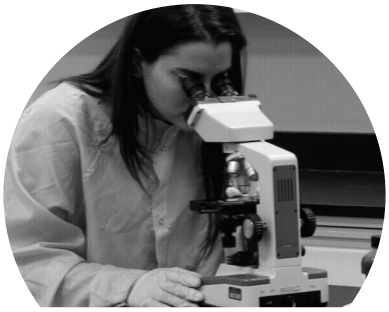
Easy2Gown®, continued

Order #	Description	Size	STERILE/ NON-STERILE	Q/CS
1700P-E-17028	EASY2GOWN MITCOOL ELASTIC WRIST AND ANKLE COVERALL	4XL	NS	25
1700P-E-17029	EASY2GOWN MITCOOL ELASTIC WRIST AND ANKLE COVERALL	5XL	NS	25
1700P-E-S-17000	EASY2GOWN MITCOOL ELASTIC WRIST AND ANKLE COVERALL	S	S	25
1700P-E-S-17001	EASY2GOWN MITCOOL ELASTIC WRIST AND ANKLE COVERALL	M	S	25
1700P-E-S-17002	EASY2GOWN MITCOOL ELASTIC WRIST AND ANKLE COVERALL	L	S	25
1700P-E-S-17003	EASY2GOWN MITCOOL ELASTIC WRIST AND ANKLE COVERALL	XL	S	25
1700P-E-S-17004	EASY2GOWN MITCOOL ELASTIC WRIST AND ANKLE COVERALL	XXL	S	25
1700P-E-S-17005	EASY2GOWN MITCOOL ELASTIC WRIST AND ANKLE COVERALL	3XL	S	25
1700P-E-S-17006	EASY2GOWN MITCOOL ELASTIC WRIST AND ANKLE COVERALL	4XL	S	25
1700P-E-S-17007	EASY2GOWN MITCOOL ELASTIC WRIST AND ANKLE COVERALL	4XL	S	25
1700P-MC-NS-17032	EASY2GOWN MID-CALF NON-SKID BOOTS	S/M	NS	50 pair-
1700P-MC-NS-17033	EASY2GOWN MID-CALF NON-SKID BOOTS	L/XL	NS	50 pair
1700P-MC-NS-17034	EASY2GOWN MID-CALF NON-SKID BOOTS	2XL/3XL	NS	50 pair
1700P-MC-NS-S-17018	EASY2GOWN MID-CALF NON-SKID BOOTS	S/M	S	50 pair
1700P-MC-NS-S-17019	EASY2GOWN MID-CALF NON-SKID BOOTS	L/XL	S	50 pair
1700P-MC-NS-S-17020	EASY2GOWN MID-CALF NON-SKID BOOTS	2XL/3XL	S	50 pair

GARMENT ORDERING cont'd

VAI Face Masks and Head Coverings

Order #	Description	Size	STERILE/ NON-STERILE	Q/CS
1700-H-UC-1770	UNDER CHIN HOOD	S/M	NS	100
1700-H-UC-1771	UNDER CHIN HOOD	L/XL	NS	100
1700-H-UC-1772	UNDER CHIN HOOD	2XL/3XL	NS	100
1700-H-UC-S-1732	UNDER CHIN COVERALL	S/M	S	10
1700-H-UC-S-1733	UNDER CHIN COVERALL	L/XL	S	100
1700-H-UC-S-1734	UNDER CHIN COVERALL	2XL/3XL	S	100
1700P-H-EO-S-17016	EASY2GOWN EYE OPENING HOOD	S/M	S	100
1700-H-UC-17031	EASY2GOWN UNDER CHIN HOOD	OS	NS	100
1700-H-UC-17017	EASY2GOWN UNDER CHIN HOOD	OS	S	100
PF-2F-T-4-2014	FLAT FACE MASK WITH 4 TIES	L	S	500
PF-2SM-2-S-2025	SURGICAL MASK WITH 2 ELASTICS	ONE SIZE	S	500
PF-2SM-T-4-S-2020	SURGICAL MASK WITH 4 ELASTICS	ONE SIZE	NS	500
PF-2SM-T-4-S-2021	SURGICAL MASK WITH 4 ELASTICS	ONE SIZE	S	500
RAY100-2452	POLYPROPYLENE BLUE BOUFFANT HAT	ONE SIZE	NS	250
PF-2SM-2-S-2026	SURGICAL MASK WITH 2 ELASTIC TIES FOAM NOSEPIECE 9"	ONE SIZE	S	500
PF-2SM-2-S-2027	SURGICAL MASK WITH 2 ELASTIC TIES FOAM NOSEPIECE 9"	ONE SIZE	NS	500
PF-2SM-2-S-2028	SURGICAL MASK WITH 2 ELASTIC TIES FOAM NOSEPIECE 9"	ONE SIZE	NS	500
PF-2F-T-4-S-2010	FLAT MASK WITH 4 TIES	S	NS	500
PF-2F-T-4-S-2011	FLAT MASK WITH 4 TIES	M	NS	500
PF-2F-T-4-S-2012	FLAT MASK WITH 4 TIES	S	S	500
PF-2F-T-4-S-2013	FLAT MASK WITH 4 TIES	S	S	500
PF-2F-T-4-S-2015	FLAT MASK WITH 4 TIES	L	S	500
PF-2SM-1-S-2016	SURGICAL MASK WITH 1 ELASTIC	ONE SIZE	S	500
PF-2SM-2-2017	SURGICAL MASK WITH 2 ELASTICS	ONE SIZE	NS	500
PF-2SM-2-S-2018	SURGICAL MASK WITH 2 ELASTICS	ONE SIZE	S	500
PF-2SM-2-S-2019	SURGICAL MASK WITH 2 ELASTICS	ONE SIZE	S	500
6605-W-9002	660 BLEND LINT FREE BOUFFANT HAT	OS	NS	250



WELCOME TO VAI LABORATORIES

VAI Laboratories closes the gap of required regulatory documentation by providing contract microbe identification and antimicrobial effectiveness studies that are performed on either one's internal environmental isolates or ATCC cultures against the chosen array of disinfecting agents.

As time constraints and the availability of personnel within GMP firms may be unavailable to conduct these extremely important studies, one can have VAI Laboratories complete these items on a contract basis.

The identification of microbial contaminants is completed, per the customer's specifications, either by fatty acid or genetic sequencing techniques. Identification of the organism is the first step to designing a corrective action plan to destroy its existence in controlled environments.

Subsequently, the need to verify the antimicrobial effectiveness of disinfecting agents used in control environments is a critical step to assuring a documented disinfection system is in place. VAI Laboratories conducts either time contact kill studies on standard or user surfaces and AOAC protocol testing studies. All tests are performed in triplicate and done at three specified contact (dry time) time periods. A complete report of the study is presented to the end user to complete their documentation file for internal or external audit requirements.

VAI Laboratories is a value-added service available through Veltek Associates, Inc. that not only completes required testing but also provides an invaluable source of information from experienced laboratory and disinfection professionals who are involved daily in GMP settings.

VAI® LABS

VAI Laboratories was established to assist our customers by providing microbiological testing services ranging from the identification of microorganisms to antimicrobial effectiveness studies to prove the effectiveness of selected disinfectants.

The successful operation of a clean room environment is dependent on the exactness of the information available and the implementation of a plan of action from such information. Pharmaceutical, Biotechnology, and Healthcare professionals have been required by the FDA to address known contamination within their facility and develop a validated plan of action to remove such contamination. This requirement will not change in the future. In fact, qualifications for clean room operations will only become more stringent as time progresses.

The importance of addressing existent contaminants is a situation that requires much effort. Complete and documented efficacy performance testing and in-situation testing to prove the removal of existent contamination is a very costly and time-consuming task. To date, there has been no completely encompassing alternative provided in the marketplace that can provide services from identification of an organism to effective destruction of the organism from the environment. Thus, microbiologists are continually forced to focus efforts on basic laboratory services that are costly and time consuming.

VAI has responded to the needs of our clients by installing GLP laboratories focusing in the area of microbiological testing services. Customized to the users requests, VAI laboratory testing division is capable of performing the following services in conjunction with the use of VAI products:

Time Contact Kill Studies

ATCC cultures and/or cultures obtained from the customer (environmental isolates) will be tested over a specified contact time. The results obtained will demonstrate the effectiveness or lack of effectiveness of the disinfectant tested against the suspended organism culture. All data is then compiled into a report per organism.

Disinfectant Validation Services

An expanded and more encompassing service than the time contact kill studies listed above is the Disinfectant Validation Service. In conjunction with the customer's needs, VAI will test specified disinfectants against a variety of ATCC cultures and cultures obtained by the customer (environmental isolates). Testing will specify a contact time. The results obtained will demonstrate the effectiveness or lack of effectiveness of the disinfectant tested against the suspended organism culture. All data is then compiled into one report and will provide an effective means to address regulatory concerns for addressing contamination within one's operations.

Microbe Identification Services

Fatty acid composition of individual species, and even subspecies, of bacteria and other microbes can serve as a stable and reliable identifying characteristic. The Microbial Identification System (MIS) capitalizes on this knowledge and uses state-of-the-art technology to render the profile of the microbe.

Consulting

The design of a biodecontamination system warrants experience and familiarization with disinfection systems that have proven success in the control of microbial and particulate contamination in clean room environments. VAI has the experience and the personnel to completely evaluate operations and address the needed requirements for operation of the controlled areas.

WELCOME TO CORE 2 CLEAN® PLUS

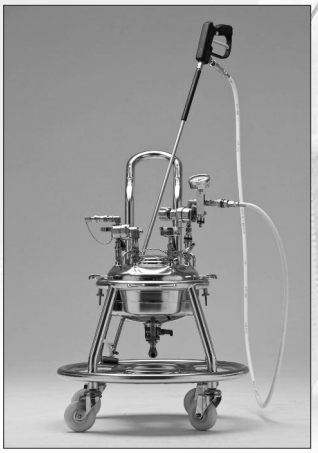
SPRAY • MOP • FOG DISINFECTANT APPLICATION SYSTEMS

The adequate application of the disinfectant or sporicide to the surface is the final and most important step in assuring the demise of existent viable contaminants in our controlled environments. Once we leave the validation study scenario, we are confronted with the complex situation of implementing what we have proven as acceptable into the real-life scope of our operations. Maintaining a system that is meaningful, manageable and defendable becomes complex in production areas as we encounter a multitude of variables. The Core2Clean Plus Systems are designed to address the application of cleaning and disinfecting agents to the surface in a meaningful and manageable methodology. Specifically designed for pharmaceutical, biotechnology and healthcare facilities, the Core2Clean Plus System simplifies application within controlled areas.

The Core2Clean Plus System was invented by Veltek Associates, Inc. to address this application requirement. Sometimes one needs to spray, sometimes to mop and at times a fogger needs to be utilized. The Core2Clean Plus Systems incorporate all three into one. The systems incorporate a trigger-activated sprayer, a trigger activated sponge mop and a fogger all in one unit. The key elements of the systems are the capability to present a sufficient amount of liquid to the surface and the capability of reducing cleaning time by nearly 50%. Introduction of all the items required to clean and disinfect an area are done at once as the entire unit can be autoclaved prior to entry. With this in mind, the Core2Clean Plus Systems provide a simple mechanism to assure cleaning and disinfection is done in an effective and efficient manner.

CORE2CLEAN® PLUS SPRAY • MOP • FOG SYSTEM

FOR THE APPLICATION OF DISINFECTING AGENTS IN CONTROLLED AREAS



The CORE2CLEAN PLUS System was designed to address the application of cleaning and disinfecting agents to the surface in a meaningful and manageable methodology. The CORE2CLEAN PLUS System has been specifically designed for pharmaceutical, biotechnology and healthcare facilities in their controlled environments. For years, the use of a conventional bucket and a mop or pad has been used to provide application of the chemical agent to the surfaces in controlled areas. In addition to mops/pad and buckets, facilities also incorporated a sprayer and a fogger within their cleaning and disinfecting operations. The CORE2CLEAN PLUS System eliminates the need for a multitude of components and incorporate them within one device.

- The CORE2CLEAN PLUS System is made of 316 stainless steel and can be steam sterilized to eliminate the concerns for introduction of viable contamination to the controlled environment from the components themselves.
- The CORE2CLEAN PLUS System is compressed air operated (ASME rated to 100 psi). This provides the ability to dispense a continuous flow of a clean solution to the surface. Continuously providing a clean solution to the surface reduces cleaning time and end user effort.
- The CORE2CLEAN PLUS System eliminates the concerns for changing of dirtied cleaning solution. This eliminates the need to discard the dirtied solutions and reduces the volume of cleaning agents required to address one's surfaces annually.
- The CORE2CLEAN PLUS System incorporates a trigger activated dispensing mop, a sprayer and a fogger all in one unit.
- The CORE2CLEAN PLUS System presents a sufficient wetting of the surface unavailable from other mopping systems. Increasing the time period the surface remains wet is essential to assuring efficacy performance of disinfecting agents.
- The CORE2CLEAN PLUS System can reduce cleaning time by 50% and is easily moved from area to area by a 4-wheel caster dolly that can be removed and cleaned.
- The CORE2CLEAN PLUS System utilizes quick disconnects to attach the mop, sprayer and fogger. The CORE2CLEAN PLUS System is user friendly and simplifies cleaning and disinfecting procedures.
- CORE2CLEAN PLUS Systems are ASME rated and CE marked

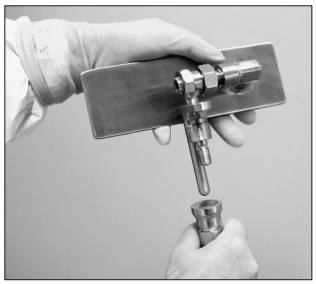
The CORE2CLEAN PLUS System **incorporates spray, mop and fog capabilities all in one unit.** The key elements of the system are the capability to present a sufficient amount of liquid to the surface and the capability of reducing cleaning time by nearly 50%. With this in mind, the CORE2CLEAN PLUS System provides a simple mechanism to assure cleaning and disinfection is done in an effective and efficient manner.

AVAILABLE TECHNICAL DATA SUPPLEMENTS *(UPON REQUEST)*

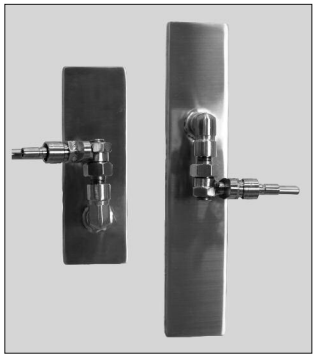
CORE2CLEAN PLUS Manual
CORE2CLEAN PLUS Product Validation
Technical Data File

Features of the Core2Clean Plus Systems

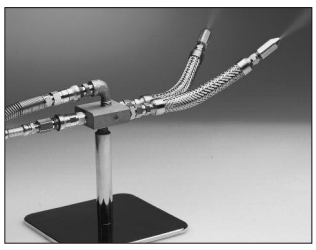
Quick Disconnect Sprayer



Quick Disconnect Mop



7 or 12 inch mop-heads and 3 and 10 foot mop extensions



Quick Disconnect Fogger

CORE2CLEAN® PLUS SYSTEM ORDERING

Basic Components

Order#	Description
C2C-102P	2 gallon spray tank ready for connection to the C2C Spray Gun, Mop or Fogger Accessory. Includes: caster wheels, pressure gauge, and 15 ft autoclavable source and dispense pressure hose. (Includes C2C-100-1 Spray Gun)
C2C-105P	5 gallon spray tank ready for connection to the C2C Spray Gun, Mop or Fogger Accessory. Includes: caster wheels, pressure gauge, and 15 ft autoclavable source & dispense pressure hose. (Includes C2C-100-1Spray Gun)
C2C-100-1	Spray Gun Accessory with Quick Disconnect Tip (included with the C2C-102 and C2C-105)

Optional Components

Order#	Description
C2C-100-2-7 or C2C-100-2-12	Automatic Mop Accessory with Mophead base (7" or 12" with quick disconnect) and 3 foot extension arm (additional arms available).

Spare Parts

Order#	Description
C2C-100-4A-S	Extra 8 ft. Autoclavable Source Pressure Hose
C2C-100-4B-S	Extra 8 ft. Autoclavable Output Pressure Hose
C2C-100-5	Replacement Quick Disconnect (Male & Female)
C2C-100-26	Stainless Steel 2 Gallon C2C TANK ONLY
C2C-100-27	Stainless Steel 5 Gallon C2C TANK ONLY
C2C-200-1	Replacement Input Regulator Assembly
C2C-200-2	Replacement Output Regulator Assembly
C2C-200-3	Replacement Manual Pressure Relief Valve
C2C-200-4	Replacement Automatic 100 psi Pressure Relief Valve
C2C-100-22	Spray Tip Nozzle
C2C-100-25	Replacement Caster Wheels
C2C-100-2-CL	Clamp for bayonnet style mop frame
C2C-100-6-GO	1-100 input gauge only
C2C-100-6-OUT-GO	0-60 output gauge only

Note: For non- Core2Clean Plus (Regular Core2Clean) spare parts, please contact VAI @ 1-888-478-3745

C2C Mopheads

Order#	Description	Qty / Case
C2C-100-7	7" VertiKlean, Mophead for C2C System (Non-Sterile)	48
C2C-100-8	7" VertiKlean, Mophead for C2C System (STERILE)	48
C2C-100-9	12" VertiKlean, Mophead for C2C System (Non-Sterile)	32
C2C-100-10	12" VertiKlean, Mophead for C2C System (STERILE)	32
C2C-100-11	7" VertiKlean, VK-SOX Floor Cover for C2C (Non-Sterile)	32
C2C-100-12	7" VertiKlean, VK-SOX Floor Cover for C2C (STERILE)	32
C2C-100-13	12" VertiKlean, VK-SOX Floor Cover for C2C (Non-Sterile)	32
C2C-100-14	12" VertiKlean, VK-SOX Floor Cover for C2C (STERILE)	32
C2C-100-18-120	120" extension wand with fittings on both ends	
C2C-100-18-36	36" extension wand with fittings on both ends	
C2C-100-18-18	18" extension wand with fittings on both ends	
C2C-100-24	Core2Clean Plus 12 curtain cleaner	

Delivery: 6-8 weeks. For Additional Replacement Parts: Contact VAI Technical Support at 1-888-478-3745

Aseptic Processing, Inc.

API

WELCOME TO ASEPTIC PROCESSING, INC.

A DIVISION OF VELTEK ASSOCIATES, INC.

Since 1981, Veltek Associates, Inc. (VAI) has played an innovative role to the pharmaceutical, biotechnology and medical device industries by partnering with clients to develop strategic products and service that have improved operations and reduced costs associated with the ingress of contamination. During the history of the company, VAI has manufactured and developed over 500 strategic and critical contamination control products, systems and services. These innovative solutions are used by most GMP organizations worldwide.

In the nearly three decades of operations, VAI has not only developed innovative products and services but also the know how for assuring successful and compliant systems to monitor and control contamination.

After many years of refinement and development, VAI introduced, in the year 2001, a unique and specialized value added advantage for it's clientele know as VAI Consulting Services. In 2003, due to its enormous growth, the division was reorganized into Aseptic Processing, Inc. (API). API is the consulting and training division of Veltek Associates, Inc.

The mission and key focus of the division is to lead the industry in specific contamination control and environmental monitoring systems. Unlike many consulting organization, API focuses specifically in the areas of Cleaning and Disinfection Systems, Disinfectant Validation Services, Component Entry Systems, Environmental Monitoring Systems, Aseptic Processing Systems, Media Fills, and Personnel Training Systems. API has assisted a multitude of pharmaceutical, biotechnology, and medical device organizations worldwide. API was also responsible for the cleaning and disinfection training that was conducted to the U.S. Food and Drug Administration's CDER and CBER divisions in 2001-2004.

Uniquely, the division works to combine all contamination control aspects within an organization into one system that is both compliant, effective and assures repeatable success.

Specialized Consulting Services in the areas of:

- Environmental Monitoring Systems
- Cleaning/Disinfection Systems
- Personnel Gowning Systems
- Aseptic Processing Systems
- Component Entry Systems
- Personnel Training
- Media Fill Trials

ASEPTIC PROCESSING, INC

EXPERT SERVICES

API provides a wide range of technical services to the pharmaceutical and biotechnology industries. Our experience encompasses the following critical areas:

Cleaning & Disinfection and Component Entry Systems

Review of current and future practices, advanced technology; cleaning of controlled and non-controlled areas; equipment cleaning and disinfection; disinfectant and sporicidal qualifications and validations; cleaning practices and methods of application; contamination control practices; residue removal; clean in place systems (CIP); sterilize in place systems (SIP); component entry systems; compliance assurance and training of personnel.

Environmental Monitoring, Media Fills and Airflow Studies

Review of current and future technology; development of air, surface and personnel programs; qualification of controlled environments; validation; compliance assurance; conducting investigations; corrective actions; media fills; air flow studies and training of personnel.

Aseptic Processing

Review of current and future practices, advanced technology; review of aseptic practices; regulatory compliance; facility design; aseptic filling; terminal sterilization; and in-house training of personnel.

Personnel Gowning

Personnel gowning for controlled and non-controlled environments; qualifications; aseptic practices; gown training programs and training of personnel.

API
a division of Veltek Associates, Inc.

VELTEK ASSOCIATES, INC.

PURCHASING PRODUCTS AND AVAILABLE TECHNICAL DOCUMENTATION

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Website: www.sterile.com
E-mail: vai@sterile.com

Technical Support:

VAI Technical Support Group can be contacted through our main manufacturing office at (610) 644-8335 or toll free within the USA at 1-888-4 STERILE (888-478-3745). VAI Technical Support Group can also be reached via e-mail at SALES@sterile.com or via our website at http://www.sterile.com

Technical Documentation:

Technical documentation for each product is available via e-mail, CD or USB memory sticks in Adobe Acrobat PDF format. This includes product specifications, testing and Material Safety Data Sheets.

Worldwide Distribution:

VAI's infrastructure incorporates 300 worldwide stocking distributors. Please contact VAI's Customer Support for your local distribution organization at Tel: (610) 644-8335 (toll free within the USA at 1-888-4 STERILE (888-478-3745)).

In an effort to provide our customers with single lot orders and optimum expiration dates minimum order quantities may be required for some VAI products.

Visit us online at www.sterile.com